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CENTRAL PATENTS INDEX

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3 OCTOBER 79
59802B - 61546B

Food Science [illegible]
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1 JAN 1980
C.F.T.R.I., MYSORE

ABSTRACTS

INDEXES

- **II - PATENTEE**
- **V - BASIC NUMBER**
- **VII - PATENT NUMBER**

Section D:

FOOD
DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	7 AUG - 13 AUG 79	873,981 - 874,135
-Non Delayed	31 JUL 79	875,421 - 875,609
BRAZIL	31 JUL 79	7,706,989 - 7,902,686
CANADA	24 JUL 79	1,058,801 - 1,059,250
	31 JUL 79	1,059,251 - 1,059,700
CZECHOSLOVAKIA	30 APR 79	6,706,434 - 7,806,693
DENMARK	23 JUL 79	7,704,480 - 7,900,015
E. GERMANY	6 JUN 79 + 13 JUN 79 +	123,019
	20 JUN 79 + 27 JUN 79	135,848 - 136,327
W. GERMANY		
-DAS	9 AUG 79	1,493,454 - 2,851,224
-OLS	9 AUG 79	2,742,818 - 2,905,057
UNITED KINGDOM	15 AUG 79	1,550,321 - 1,550,720
		2,013,461 - 2,014,020
HUNGARY	28 JUL 79	H002,450 - H002,453
		T016,768 - T016,858
JAPAN		
-Unexamined	—	47,001,139 - 53,035,485
	2 JUL - 9 JUL 79	54,082,601 - 54,086,400
-Examined	19 JUL - 25 JUL 79	79,019,921 - 79,020,840
NETHERLANDS	30 JUL - 5 AUG 79	7,800,935 - 7,900,837
NORWAY	23 JUL 79	7,704,453 - 7,804,408
SOVIET UNION	—	247,915 - 631,699
SWEDEN	30 JUL 79	7,403,112 - 7,905,218
UNITED STATES		
-Reissues	31 JUL 79	Re30,056 - Re30,061
-Patents	31 JUL 79	4,162,542 - 4,163,291
PCT	9 AUG 79	7,900,493 - 7,900,539

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

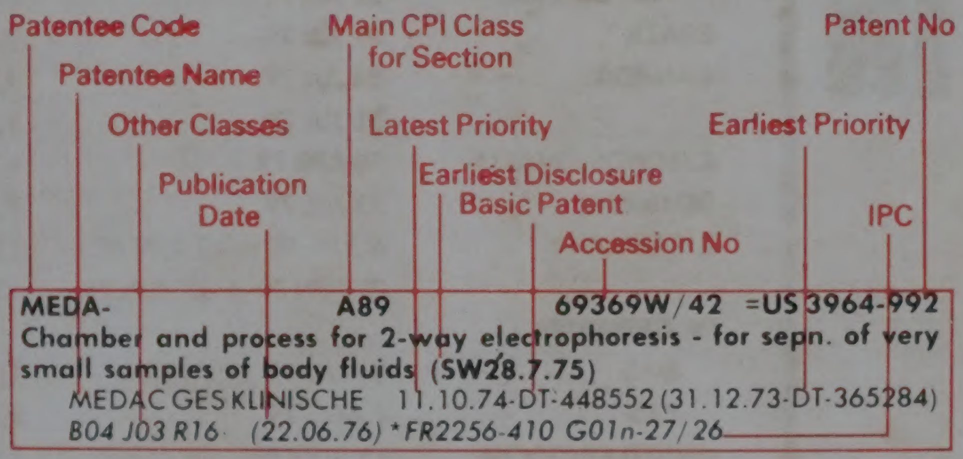
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Main CPI Class for Section
Patent No
Patentee Name
Other Classes
Latest Priority
Earliest Priority
Publication Date
Earliest Disclosure
Basic Patent
IPC
Accession No

MEDA- **A89** **69369W/42 =US 3964-992**
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

ERA/ ★ D11 B/33 ★CS 7805-549
akes prodn. appts.
BERAN J 25.08.78-CS-005549
(30.04.79) A21c-11

ITT/ ★ D11 59937B/33 ★DL -135-991
Vheat-meal dough moulding process - by trimming endless strand, olling to coil and cutting to length
RITTER G 17.11.77-DL-202117
(13.06.79) A21c-03/10

oll-shaped wheatmeal dough mouldings for the prodn. of hite bread are made by kneading and rolling to an endless trip. After relaxation by transverse rollers and side rimming they are coiled up to a spiral roll, split transersely and passed to the dough raising section.

This is a much more economical process than the preent method with an intermediate raising period of 8-17 nins. The same machine can be used to prepare mouldngs for a wide variety of bread sizes. 17.11.77 as 202117 (4pp39)

RIED/ ★ D11 59938B/33 ★DL -135-992
Crusty roll dough preparation - on twin layer belt with slab halves olded over by lifting top belt layer
RIEDEL H 04.11.77-DL-201861
(13.06.79) A21c-11

Crusty roll dough is shaped on a conveyor belt consisting of two layers, stitched together along the centre line. One half of the upper layer is turned up to fold over the first half of the flat dough, followed by folding up the second half over the first. A foam rubber roller then forms the final shape.

This saves all manual labour and prevents the longitudinal compression. The greater percentage of crusty parts results in a more crips roll. 4.11.77 as 201861 (11pp39)

GEBH/ ★ D11 59982B/33 ★DL -136-210
Protein(s) partially hydrolysed by enzyme(s) - used as texture improving additives for foodstuffs esp. as freshness retention aids in bread
GEBHARDT E 20.01.78-DL-203327
(27.06.79) A21d-02/26

Foodstuff additives for imparting improved texture to bread and other confectionery, are made by partial hydrolysis of a protein (proteolysis) followed by treatment with an acid. The prod. may be dried or frozen for storage. When required for use, the material is thawed or rehydrated and/or neutralised and is then used, opt. together with further additives, in the prepn. of dough for the prodn. of bread and confectionery which retains its freshness longer.

Pref. protein is moist gluten or rehydrated vital gluten and the proteolysis is carried out in a kneader or stirred vessel with protease at the optimum temp. and pH. After proteolysis to the required consistency, the prod. is acidified e.g. to pH 3.5 to 4 with HCl and may then be (spray) dried, frozen or used directly.

Process allows proteins such as gluten to be converted into a liq. or powder prod. which can be incorporated into doughs to give baked prods. with improved freshness retaining properties, without delterious effects on the baked goods. 20.1.76 as 203327 (8pp513)

HAAS/ D11 56819T/36 =DS 2206-644
Wafer biscuit prodn machine - with two stage feed mechanisms for each leaf
HAAS F (HAA /) 11.02.71-OE-001180
*+Q35 (09.08.79) *DT2206-644 A21c-15/02*

A machine for the preparation of multilayer wafers consists of several (three) magazines for the wafers, each with a short extraction belt which deposits one wafer at a time on a main belt for the cream application station. Each extraction belt is followed by a shaft for the controlled lowering of a wafer on the main belt. An oblique light beam barrier in each shaft checks the drop of a wafer and cuts out the extraction conveyor. The next flights on the main belt conveyor switch the extraction belt on again.

This produces multilayer wafers automatically without risk of breakages or double layers. 11.2.72 as 206644 (4pp39)

ULLR/ D11 65207Y/37 =DS 2609-085
Bread dough contg. condiment mixt. - comprising sage, rosehips, summer savoury, marjoram, fennel, gentian and dill seed
ULLRICH H G 05.03.76-DT-609085
*(09.08.79) *DT2609-085 A21d-02/36 A23l-01/22*

Spice mixt. contains sage, rose hips, summer savory, marjoram, fennel, gentian and dill in the wt. ratio 1:1:1:1:0.5:0.5:1.5. It may also contain hibiscus blooms, coriander, strawberry leaves,mustard seed, aniseed and flax seed. The mixt. may be used to flavour bread dough. 5.3.76 as 609085 (2pp068)

ADLE/ ★ D11 60020B/33 ★DT 2742-818
Bread and rolls baking tin - with holes and inward prongs for better crustiness
ADLER N 23.09.77-DT-742818
(09.08.79) A21b-03/13

In a method of baking bread and crusty rolls the raised balls of dough are inserted on baking tins which leave the centre of the ball exposed by supporting it on radial prongs on the periphery of holes. These tins are loaded by forks into the oven and are deposited on the oven hearth.

Baking in direct contact with the hearth avoids the soft bottom of bread baked on solid tins. A crusty rind and a better taste are the result of the method, which also saves labour. 23.9.77 as 742818 (16pp39).

WERN ★ D11 60053B/33 ★DT 2804-545
Multideck baking oven - with brackets in large bread baking chambers for small pastry tins (NL 7.8.79)
WERNER & PFLEIDERER 03.02.78-DT-804545
(09.08.79) A21b-01/26

A multideck baking oven has several baking chambers on top of each other, each with a height of ≥ 150mm. Each bottom is designed as a heat storage plate. At half the height, each chamber has support plates for smaller pastry. Side perforations ensure a good circulation of hot air.

Parts of the baking chambers which are not needed for bread baking can thus be utilised for smaller pastry. 3.2.78 as 804545 (15pp39).

PROH/ ★ D11 B/33 ★HU T016-779
Crescent-shaped confectionery prods. mfr.
PROHASKA F 21.07.77-HU-PO0658
(28.07.79) A21c-13 A21d-13/08

SHIM- ★ D11 60535B/33 ★J5 4084-047
Preserving uncooked noodles - by coating with starch and/or starch deriv. contg. water-soluble antibiotic
SHIMADAYA HONTEN KK 14.12.77-JA-150306
(04.07.79) A23l-01/16

Process comprises spreading starch and/or starch deriv. contg. water-soluble antibiotic, onto the surface of the uncooked noodles having water activity 0.86-0.95.

Since the noodles have water activity 0.86-0.95 the antiboitic does not impregnate the noodles and remains on the surface giving antibiotic activity. Prods. can be preserved for >10 days without any change in quality.

Suitable starches and starch derivs. include +-lysed starch, acid-treated starch, organic acid ester of starch, phosphoric acid ester of starch, oxidised starch, etc.

Pref. antibiotics include organic acid (anhydrides) such as malic acid, malic anhydride, phytic acid, citric acid, fumaric acid, etc. lactones, such as glucono-γ-lactone, phosphates such as sodium metaphosphate, alcohols, such as propylene glycol, glycerin, etc. carbonates such as Na_2CO_3 and glycine (derivs.). 14.12.77 as 150306 (3pp5)

FREU- ★ D11 60536B/33 ★J5 4084-049
Powdered activated calcium stearyl lactate - for improving texture of bread dough, is prepd. by emulsifying the lactate in water with edible emulsifier and drying
FREUNT SANGYO KK 13.12.77-JA-149653
E12 (04.07.79) A21d-02/16

Prodn. of powdered activated calcium stearyl lactate (I), comprises (1) emulsifying calcium stearyl lactate (II) in water with addn. of natural edible emulsifier (III) other than protein, or mixt. of (III) and synthetic edible emulsifier (IV) and (2) drying the emulsion to powder.

Pref. (III) is tragacanth gum, gum arabic, guar gum, starch or dextrin. (IV) is methyl cellulose, carboxymethyl cellulose, propylene glycol aliginate, glycerin fatty acid ester, sucrose fatty acid ester, sorbitan fatty acid ester, etc. In the prepn. water is warmed to 80-90°C, (III) or (III) and (IV) is/are added to the water and(II) is mixed in. The wt. ratio of (III) or (III)+(IV) to (II) is 20/100-200/100.

(I) can be dispersed easily in the dough and does not coagulate. 13.12.77 as 149653 (5pp42)

CALP- D11 04736Y/03 =J7 9020-591
Powdered instant sponge cake mix - giving a cake by adding egg, milk, cream and water, without prepaing a batter
CALPIS FOOD IND KK 27.05.75-JA-062550
*(24.07.79) *J51139-661 A21d-13/08 +A21d-10/04*

The mix is prepd. by adding an emulsifier (e.g. monoglyceride and/or propyleneglycol-fatty acid ester) to oil and fat, mixing it with gluconodeltalactone and flour, with alkaline swelling agent, karaginan and skim milk and opt. mixing it with seasoning, such as powdered lecithin sugar salt etc.

The sponge cakes is prepd. without foaming. The cake -mix is stable for a long time. 27.5.75 as 062550 A21d-10/04 (24.7.79) CALPIS FOOD IND KK (4pp)(J51139661)

PETE- ★ D11 61423B/33 ★US 4162-887
Dispensing creme to surface of two streams of biscuits - from pair of valved heads rotating above biscuits
PETERS MACH CO 22.03.78-US-888867
*(31.07.79) B29f-03/**

Creme is deposited on the surface of a stream of biscuits advanced at a constant speed. The creme is discharged from a rotating stencil extending transversely above the biscuits and having a peripheral speed equal to that of the biscuits. This stencil has an annular port which is synchronised with the biscuits and the creme discharge is controlled by apertures in a non-rotatable stencil inside it. The appts. handles two streams of biscuits which are simultaneously coated from two ports mounted on a common stencil.

Inside the non-rotating stencil is a valve with apertures which can selectively close the apertures in the non-rotating stencil to adjust the relative flows onto each stream of biscuits.

Creme is supplied to the stencil from one end and the valve is used to equalise the flow rates onto each stream of biscuits. 22.3.78 as 888867 (8pp295)

CILE/ ★ D11 61504B/33 ★US 4163-065
Edible article for ingestion in religious ceremonies - consisting of unleavened bread and capsule, esp. contg. wine
CILEK E T 20.04.78-US-898451 (22.02.77-US-770397)
(D16) (31.07.79) A21d-13 A23l-02/02

Wholly edible article for ingestion at religious ceremonies consists of a crisp unleavened bread and a capsule of fruit flavoured material, physically joined together so that both components are visible.

The filling of the capsule is pref. wine. It can also be an unfermented fruit flavoured liquid, e.g. fruit flavoured oil, fruit juice or a saliva dispersible fruit flavoured solid.

The articles are storable and can be dispensed easily to large numbers of people without the risk of accidents associated with conventional wafers and wine. 20.4.78 as 898451 (6pp955)

D12: MEAT; FISH PROCESSING

BOOR/ ★ D12 B/33 ★CS 7803-595
Storage-stable poultry sausage
BOOR S 02.06.78-CS-003595
(30.04.79) A22c-11

ZIEM/ ★ D12 59894B/33 ★DL -135-856
Vacuum cutter and mixer for meat etc. - has lower housing section sealing edge running around cutter dish and arm sealing plate
ZIEMS W 24.04.78-DL-204966
P41 (06.06.79) B02c-18/16

The cutter dish is accommodated in an additional upper and lower housing section. The sealing edge of the lower housing section runs round the cutter dish, and to seal the opening formed by the recess through which the knife arm passes a sealing plate is provided.

The plate can have sealing material on the dish side, and it can be mounted on the knife arm at an obtuse angle to the sealing edge. 24.4.78 as 204966 (7pp160)

NMHB ★ D12 59939B/33 ★DL -135-993
Fish processing machine conveyor - with claw pairs self-adjusting for fish size against jockey pulleys
NORDISCH MASCH R BAADER 18.04.78-DL-204862
(13.06.79) A22c-25/08

An endless conveyor for a fish processing machine consists of two parallel V-belts each carrying a solid line of claws which form with their top faces a Y-shaped opening. These grip the fish on the dorsal line. Centre and side rails guide the claws along the working stretch, but allow the claws to rise against a jockey pulley weight if the fish height requires it.

The size of the fish thus does not require any adjustment to the conveyor which provides an efficient transport for a wide range of fish. 18.4.78 as 204862 (11pp39)

NMHB D12 22248B/12 =DS 2740-459
Fish position device - with pivoted guide rod pair for contra-rotating endless belts
NORDISCHER MASCHINE 08.09.77-DT-740459
*(09.08.79) *DT2740-459 A22c-25/12*

A new device for the belt conveyors of fish processing machines feeds the fish always at the same height just below the lateral vertebral extensions. The belt conveyor consists of two endless belts in a horizontal plane, with a gap between their strands which are turned towards each other. At the feed end and just below the bottom edges of the belts, a pair of guide rods accepts the fish with a bellmouth opening and compresses their ventral cavity.

This device is suitable for fish of all shapes and sizes. 8.9.77 as 740459 (4pp39)

SCHN/ ★ D12 60095B/33 ★DT 2805-035
Bone sawing machine - with paddle wheel feeding bones to multi-disc circular saw
SCHNELL K 07.02.78-DT-805035
(09.08.79) A22b-05

bone sawing machine includes a revolving paddle wheel hich is divided into sectors by radial blades. A contra-otating saw consists of a number (ten) of parallel circular aw discs which enter into slots of the radial blades.

This eliminates injuries because the bones need not be eld by hand any more. 7.2.78 as 805035 (12pp39).

EYN/ D12 19713A/11 =GB 1550-501
achine for cleaning fowl stomachs when giblets are removed - ligns carcass accurately to knife and presses it open
MEYN P 28.11.76-NL-013251
*(15.08.79) *BE-860-435 A22c-21*

oultry gizzards are split, cleaned and skinned in appts. hich includes an endless chain conveyor having protru-ions for holding the gizzards, a rotating knife to cut open he gizzards, a bar to fold open the split gizzards, a clean-ng device to empty the gizzards, and a set of rolls to emove the lining of the gizzards.

Two pressure discs mounted at a spocket wheel of the onveyor near the rolls press the gizzards onto the rolls. The discs have a greater dia. than the spocket wheel. Two ounter-rotating rolls pref. supply the gizzards to the end f the conveyor. 17.11.77 as 047882 (7pp1376)

EYN/ D12 34990A/20 =GB 1550-591
xtractor for cloaca of poultry - has accurately aligned, knife-entering pin preventing damage to carcass or entrails
MEYN P 24.01.77-NL-000677 (12.01.77-NL-000233)
*(15.08.79) *BE-862-059 A22c-21*

Appts. for cutting out the vent of a fowl has a hollow cyl-ndrical knife rotatable about a centre pin which is inserted into the vent to centre the knife, and a hollow driving shaft carrying the knife and being rotatably but axially mmovably mounted on the pin. The knife is connected to he shaft by a radial pin which extends into a helical slot n the knife so that the knife moves from an initial position allowing the centre pin to be inserted to a cutting position when the shaft rotates.

Pref. the centre pin is rotatable in the opposite direction to the knife and has a helical rib which slopes upward from the tip of the pin. The vent can be removed by cutting a smaller hole than previously. 12.1.78 as 001216 (12pp1376)

MEYN/ D12 34990A/20 =GB 1550-592
Extractor for cloaca of poultry - has accurately aligned, knife-centering pin preventing damage to carcass or entrails
MEYN P 24.01.77-NL-000677 (12.01.77-NL-000233)
*(15.08.79) *BE-862-059 A22c-21*

Appts. for cutting out the vent of a fowl as it is rotating supported on an overhead conveyor includes a slide block movable towards the fowl, a hollow knife on the block rotatable about a pin used for centring the knife on the vent, and a device for positioning the fowl adjacent the knife. The device has two members for bearing on the breast and the back.

The breast-bearing member pushes the fowl so that its vent passes the centre-line of the pin, and the back-bearing member briefly contacts the back to push the fowl backwards so that the vent lies directly on the centre-line of the pin. The 'rose-bud' is also in the dia. of the knife.

The size of the cut is greatly reduced. 12.1.78 as 27242/78 Div.ex 1550591 (10pp1376)

NIGY ★ D12 60539B/33 ★J5 4084-063
Euphausia Superba powder prodn. - by heating, sepg. liquor, treating liquor with hydrogen peroxide, sepg. suspension, concentrating supernatant, peroxide treatment and drying
NICHIRO GYOGO KK (TAIH-) 14.12.77-JA-150142
(04.07.79) A23l-01/32

Prodn. of powder of Euphausia Superba (I) caught around the South Pole, comprises (1) warming at 50-65°C, (2) sepn. of liquor, (3) treating the liquor with H_2O_2 (II) at 50-65°C, (4) sepg. suspending solid, (5) concentrating the supernatant, (6) treating the concentrate with H_2O_2 and (7) drying at ⩽65°C. The powder can be stored for a long period without oxidation of oil, than can original material.

The quantity of H_2O_2 used in (3) and (6) is 0.05-0.11 wt.% on starting material and the ratio of H_2O added in (3) is usually 20-40% on whole quantity of H_2O. 14.12.77 as 150142 (5pp42)

NISY ★ D12 60540B/33 ★J5 4084-064
Prodn. of powdered Euphausia Superba - includes adjusting the pH to acidic, heating and mixing with hydrogen peroxide to improve storage life
NIPPON SYNTH CHEM IND (TAIH-) 14.12.77-JA-150143
(04.07.79) A23l-01/32

Prodn. of powder of Euphausia Superba (I) caught around the South Pole, comprises (1) adjusting pH of (I) cut to small particles to acidic, (2) heating it to 50-65°C, (3) mixing it with 0.05-0.11 wt.%; of hydrogen peroxide (II), (4) sepg. liquid from solid, (5) concentrating the liquid, (6) mixing the concentrate with the solid sepd. in (4) and (7) drying the mixt. at up to 65°C.

(I) is of limited storage life, because oil in (I) is easily oxidized and (I) generates bad odor with discolouration of (I) to brown. The present powder of (I) can be stored for a long period without oxidation of oil. 14.12.77 as 150143 (5pp42)

AJIN ★ D12 60541B/33 ★J5 4084-065
Delicately flavoured food prodn. for use as relish - by moulding ground fish meat, seasoning and ammonium (bi)carbonate into plate, heating and roasting
AJINOMOTO KK 19.12.77-JA-152564
(04.07.79) A23l-01/32

Prodn. of a food (I) comprises (a) moulding mixt. of ground fish-meat (II), seasoning $(NH_4)CO_3$ (III) and $NH_3 . HCO_3$ (IV), to a plate, (b) heating it and (c) roasting its surface, resulting in expansion or foaming.

The quantity of (III) and (IV) is 0.05-2 wt.% e.g. (0.05-0.5 wt.%) on the wt. of (II) and the content of (II) in the mixt. is 40-70%. The temp. of heating in (b) is 40-85°C. After the step (b), the mixt. is pref. dried to water content of 15-25 wt.%, for effective expansion in (c).

(I) is used as a simple relish. When (I) is produced from (II) of low quality or (II) mixed with starch, egg, vegetable oil, etc. it does not expand enough by roasting. Sufficiently expanded (I) can be produced from (II) of low quality and (II) mixed with other materials. 19.12.77 as 152564 (3pp42)

NAKA/ ★ D12 60933B/33 ★J7 9020-587
Preserving the freshness of fish - by treating with water at pH 7-10 and contg. sodium acetate
NAKAMURA T 27.05.70-JA-044895
(24.07.79) A23l-01/32

Fresh fish is treated with a water of pH 7.0-10.0 containing 0.5-60% of sodium acetate. Freshness of the fresh fish can be maintained for a long period of time without damage the taste and flavour of the fish. 27.5.70 as 044895 A231-1/325 (24.7.79) NAKAMURA T (3pp22)

NAKA/ ★ D12 60934B/33 ★J7 9020-588
Maintaining freshness of animal meat etc. - by treating with aq. sodium acetate soln. at alkaline pH
NAKAMURA T 14.04.71-JA-023058
(24.07.79) A23b-04/14

Meat of animal, etc. is treated with a water of pH 7.0-10.0 which contains 0.5-60% of Na acetate. The meat can be kept fresh for a long period. 14.4.71 as 023058 A23b-4/14 (24.7.79) NAKAMURA T (3pp22)(J47035171)

KOCK/ ★ D12 60968B/33 ★NL 7902-171
Feed system for sepg. and orienting shrimps before peeling - has two vibratory feeders with intermediate air chute
KOCKEN A 20.03.79-NL-002171 (23.02.72-DT-208476)
(31.07.79) A22c-29/02

Device for sepg. and aligning shrimps whilst feeding them into a peeling mechanism consists of three feed conveyors, two of which are inclined upwards and equipped with vibrators whilst the third is a chute in the form of a U-channel. The floors of the two vibrator conveyors pref. comprise parallel grooves which are flat-round at the start and deep-round at the finish. This arrangement causes the shrimps that are individually fed onto the conveyor to lie with their backs in the wide groove.

Those that are still not correctly aligned fall through openings at the end of the first conveyor into the second conveyor. The floor of this conveyor is equipped with air openings in such a manner that the descending shrimp is caused to turn tail up before falling onto the third conveyor which is of similar type to the first. The shrimps coming from the two vibratory conveyors are fed, correctly oriented, into a peeling machine.

The device enables the peeling machine to function without the normal problem of incorrect orientation of the shrimp. 20.3.79 as 002171Div.ex.28.8.72-011720(8pp 1370).

LERE= ★ D12 61085B/33 ★SU -603-363
Sausage casing meat stuffing injection filler - has hollow and perforated auger shaft below feed hopper to prevent meat particles suction into vacuum system
LENGD REFRIG IND 17.01.77-SU-445160
(29.03.78) A22c-11/08

The efficiency and reliability of stuffing filling of sausage casings are ensured if the hollow part of auger shaft is below the charge hopper.

The suction of the stuffing is prevented by an auger in the hollow and perforated part of the shaft.

The helix of the inner auger is opposite to the flight of the outer auger which picks up the stuffing dropping by gravity from the hopper. The stuffing propelled by the auger is subject to vacuum, and meat particles dropped into the hollow part are fed towards the discharge port where they are mixed with the main mass.
Gorban M.V., Gruzdev I.E., Kornilev I.B., et al. Bul. 15/25.4.78 17.1.77 as 445160 (2pp89)

CHER= ★ D12 61130B/33 ★SU -631-132
Sausage meat prodn. chopper and mixer - has cutter rotation axes perpendicular to auger axes and inclined to horizontal for uniform meat particle size prodn.
CHERKASSY MACH CONS 24.06.77-SU-500354
(11.11.78) A22c-05 A22c-17

The meat grinding without the risk of overgrinding when making stuffing for sausages is ensured by setting of the cutter with rotation axis perpendicular to the axis of augers.

The two cutters are inclined to the horizontal plane with their edge picking up the stuffing below the bowl bottom. The cutter feeding the stuffing to the bowl is above the bottom of the latter.
Dubovich A.I., Ostapenko N.E., Titarchuk A.A. et al. Bul. 41/5.11.78 24.6.77 as 500354 (3pp89)

UNIC D12 45822A/26 =US 4162-557
Turning flexible tubular skin, e.g. sausages inside-out - so that skin can be internally coated without risk of damage
UNION CARBIDE CORP 23.12.76-US-753817
*A92 (31.07.79) *BE-862-205 A22c-13/02*

An elongated flexible tubing is turned inside out by humidifying a length of tubing to ≥8% moisture level w.r.t. total wt. of tubing, and shirring the humid length of the tubing to form a shirred stick.

The flexible tubing of the shirred stick is deshirred and everted by drawing one end of the tubing through the bore of the shirred stick and out through the opposite end. The deshirred tubing is then inflated as it exits from the stick bore; and the everted, inflated tubing subsequently flattened. Pref. the end prod. is wound into a roll, or shirred to form a shirred stick.

The process is esp. used for evaginating fibrous and cellulose tubing, such as an externally coated fibrous food casing. The process is effected without damage to the tubing. 23.12.76 as 753817 (5pp931)

RUBI/ ★ D12 61383B/33 ★US 4162-558
Chuck drill powered fish scaler - comprises a helically grooved stainless steel rod with semicircular recesses along groove edges
RUBIO C R 30.05.78-US-910374
(31.07.79) A22c-25/02

A fish scaler for use with a motor-driven drill comprises a stainless steel cylinder with a drill chuck engaging section of 3/16 inch dia. and a second solid section 4 inches long and 1/2 inch dia. with a bevelled end and spiral grooves.

Semicircular recesses extend radially and towards the outer end from lines of groove intersection. The recesses are equispaced and the second section has integral tooth surfaces for rapidly scaling fish when rotated by a drill, without causing the scales to fly so that no cover is neede
30.5.78 as 910374 (4pp1358)

UNIC ★ D12 61398B/33 ★US 4162-69
Shirred sausage casing - reversible on filling with sausage meat prevent meat contact with casing fastening
UNION CARBIDE CORP 17.01.78-US-870198
(31.07.79) A22c-13

A shirred tubular casing has one end deshirred and dispo ed within the bore of the casing extending close to the sec ond end. The deshirred end is gathered and closed by an external clip. Material is fed into the casing and does no contact the clip. As the material is fed in the shirred ca -ing turns inside out so that the external surface of the shirred casing contacts the material.

The casing may be either a coated cellulose casing or coated fibrous casing.

The casing is used for various types of sausage produc The sausage product does not contact the fastening clip ar thus possible contamination is prevented. 17.1.78 as 870198 (5pp295)

ALFA D12 57096A/32 =US 4163-00
Sepn. of animal prod. esp. slaughterhouse waste into fat an protein - by mixing and partial heating then final heating an centrifuging
ALFA-LAVAL AB 27.01.77-SW-000842
*(31.07.79) *DT2802-271 A23j-01/02*

Animal raw material, such as slaughter-hour offal is sepd. into one fat fraction and ≥1 protein fraction. The prepn. comprises finely dividing the raw material, and subjecting it continuously to a first heating at a relatively low temp. of 45°-70°C and at constant viscosity.

The first heating is effected by circulating the divided material through a circuit which includes a heating zone and means to maintain constant viscosity. A stream of warm material from this circuit is then quickly heated to a higher temp. of 85-100°C. The flow is immediately sepd. by centrifugal sepn. to provide the fat fraction and the protein fraction. Water is then added to the materia subjected to the first heating.

The use of the circuit in the first heating stage preven collagene conversion into gelatine, which impairs fat and protein sepn. 24.1.78 as 871828 (4pp931)

HILL/ ★ D12 61503B/33 ★US 4163-06
de-shelled egg cysts obtd. from shrimp eggs - useful as a completel edible and hatchable aquaculture prod.
HILL M M 06.03.78-US-884067
C03 P14 (31.07.79) A01k-61 A23l-01/32

Denuded egg cysts (I) are obtd. by (a) soaking brine shrimp eggs (cysts surrounded by outer shells) in water saturate the eggs; (b) immersing the eggs in Cl-type oxi ising liquid medium at below 40°C to cause the shells to dissolve, and (c) sepg. the (I) and drying them at below 40°C.

The drying is pref. effected by placing the denuded cysts in a fine mesh bag and blowing air through it, or the cysts may be freeze dried. They are then packaged prevent exposure to ultra-violet rays or to moisture. Th oxidising liquid medium pref. consists of NaClO in an alkaline medium; household bleach may be used with dilution to provide the medium. Ice may be added to ensur that the medium remains at below 40°C while the shells the eggs are dissolving.

(I) are easily stored and handled, and they are viable and capable of producing brine shrimp cultures that are completely usable as food for all subjects of aquaculture, e.g. for tropical fish breeding and marine fish-rearing programs. The shrimp eggs are better utilised and the process is economical while giving increased yields. 6.3.78 as 884067 (4pp1248)

WILL/ ★ D12 61508B/33 ★US 4163-0
Shrouding freshly skinned carcass - in loose weave, cotto polyester cloth wetted with salt solution during cooling
WILLIAMS B E 04.05.77-US-793744
A97 F07 (31.07.79) A23b-04

A freshly slaughtered and skinned carcass is treated to smooth the fat surface increase surface whiteness and re duce shrinkage by applying a rectangular shroud cloth thoroughly wetted with salt soln. The cloth is a blend of cotton and polyester yarns with a density of <36 per inch in both directions to leave interstices for capillary attraction and ventilation and to accommodate skewers without extensive cloth damage.

The interstices retain the soln. and the cloth is tensioned with skewers to ensure that the interstices remain open when the cloth is wet. The shrouded carcass is kept in a cooling room until the shroud loses free surface moisture, when it is peeled from the carcass. Yarn density is pref. 24-36 per inch. 4.5.77 as 793744 (3pp1358)

D13: OTHER FOODSTUFFS

ALBR ★ D13 59829B/33 ★BE -874-095
Dehydrating organic tissues esp. foods - by impregnating with carbon di:oxide soln. and then drying
BUSH BOAKE ALLEN 13.02.78-GB-005582
(13.08.79) A23b

The process comprises impregnating it with an aq. soln. of carbon dioxide or a carbon dioxide precunsor, diffusing the soln. in the tissue, then dehydrating it by applying heat and/or reduced pressure sufficient to release CO_2 gas inside the tissue thus preventing shrinking.

Solns. for use in the treatment of a food prior to dehydration comprise either (a) an aq. soln. contg. 0.1-5% of an alkali metal carbonate; 0.1-5% of citric, tartaric, acetic, ascarbic, phosphonic, malic, lactic, aclipic, succinic, fumanic or gluconic acid; and 0.1-5% of an alkali metal sulphate or metabisulphate; or (b) an aq. soln. contg. at least 1.5 volume of CO_2; 0.1-5% of an alkali-metal sulphate or metabisulphate and 1-5% of a soluble starch.

Process is esp. applied to foods such as meat, poultry, fish and partic. fruit and vegetables. Process enables improved dehydration; the dried prod. being more easily hydrated giving a better reconstituted prod. 12.2.79 as 874095(18pp597).

SUKO/ ★ D13 B/33 ★CS 7700-400
Fruit stone pith concentrate prepn.
SUKOVATY J 21.01.77-CS-000400
(30.04.79) A23l-01/06

LAKO/ ★ D13 B/33 ★CS 7703-862
Calcium-sodium phosphate mineral additive for feedstuffs
LAKOTA V 13.06.77-CS-003862
C03 (30.04.79) A23k-01/17

MACK/ ★ D13 B/33 ★CS 7800-176
Nutritious feedstuff - based on cellulose waste and excrement
MACKO O 09.01.78-CS-000176
C03 (30.04.79) A23k-01/12

DEAK ★ D13 59953B/33 ★DL -136-096
Prodn. of protein foods or feeds from vegetable materials - with acid and alkali treatment to fix proteins and remove undesirable components
AKAD WISSENSCHAFT DDR 12.08.77-DL-200543
C03 (20.06.79) A23i-01/14

Prodn. of protein foodstuffs or animal feeds from protein-contg. vegetable raw materials (esp. oil seeds) is carried out by means of $\geq$1 of the following operations: pre-treatment, leaching, drying, deoiling, solvent removal and husk removal.

The improvement comprises subjecting the raw materi-al to alternate heat treatment with acid and then alkali, or with alkali and then acid, to fix soluble proteins and remo-ve undesirable components.

The process can be used to produce protein concentra-tes (e.g. with a protein content of 50-70%) from rape or sunflower seeds. The acid alkali treatment reduces pro-12.8.77 as 200543 (20pp) tein losses during processing.

AGRO- D13 75589S/48 =DS 2120-425
Animal feed supplement containing metal chelates of copper - cobalt and manganese with phosphates
INST AGRONOMIC TIMI (AGR -) 06.05.70-RU-063272
*C03 (09.08.79) *DT2120-425 A23k-01/17*

A trace-element concentrate (I) for premixes and feedstuffs is prepd. by mixing oxides carbonates or volatile salts of metallic trace elements and an alkaline phosphate to give a product contg. 2-12% Fe, 2.5-10% Zn, 3-8% Mn, 0.2-7% Cu, 0.01-2% Co, 12-27% Na 22-30% P and 37-55% O_2 in which the metals which fulfil the role of trace-elements are melted into a water-soluble polymetallic phosphate glass with an av. condensation degree of 2.75-5 and a Na-content of 45-90% Na gr. eq. of the sum of gr. eq. of metal ions. The glass is prepd. by melting for 1-2 hrs. at 900-1200°C and then quickly cooled. The mixt. is then milled and passed through a sieve of 0.1mm mesh.

The process gives a soluble product with a homogeneous distribution of many trace-elements. These are better assimilated and give greater weight increase with a reduced specific feed consumption than products prepd. in known ways. The process is simple and economical using accessible starting materials. 26.4.71 as 120425 (3pp279)

FRRR D13 08058B/05 =DS 2800-309
Filled floatable spherical food prod. - having crisp honeycombed exterior and filled by injection
FERRERO P & CIA SPA 21.09.77-IT-069081
*(09.08.79) *BE-870-639 A21d-13*

A seam-free, filled, pref. spherical foodstuff with a soft filling is prepd. The casing of dia. 10-20 (12-17)mm is made from dough contg. only albumin as leavening agent. The casing has a closed cell structure, is impermeable to air and the cell size decreases from the inside to the surface.

The casing has a moisture content of <1% and can float in fruit juice or milk. After filling the casing e.g. with nougat or soft cheese by injection the prod. is stable for some weeks. 4.1.78 as 800309 (5pp068)

WIDM- ★ D13 60045B/33 ★DT 2804-430
Cashew nut prepn. for cracking - by nicking shells on both sides on endless belt conveyor before feeding to cracking machine
WIDMER & ERNST AG 02.02.78-DT-804430
(09.08.79) A23n-05

Nuts e.g. cashew nuts are prepd. for the machine in which their shells are cracked by holding them between two flexible strips, leaving access to their sides. Revolving milling cutters produce a nick through the shell on both sides before the nuts are fed into the machine.

This increases the percentage of unbroken kernels and has a decisive effect on the profitability of the operation. 2.2.78 as 804430 (9pp39).

BEAF ★ D13 60130B/33 ★DT 2822-658
Expandable pelletised animal part-derived thermoplastic compsn. prepn. - by drying, comminuting, mechanically degreasing, softening, extruding, cooling and cutting
BEATRICE FOODS CO 08.02.78-US-876124
C03 (09.08.79) A23l-01/31

An expandable pelletised compsn. consisting of $\geq$50% degreased animal parts is prepd. by (1) drying raw animal parts to moisture content 10-25%, (2) comminuting the dried parts to particles having size $\leq$ 0.6 cm, (3) mechanically degreasing to average fat content <18 (<15)%, (4) softening in an extruder at 121-160°C under a sufficiently high pressure to gelatinise the particles and form a therm-oplastic workable compsn., (5) extruding to a shape-retaining extrudate, (6) cooling to < 102°C and (7) cutting to expandable pellets.

The pellets can be puffed up to at least twice their vol. by frying in deep fat, e.g. as puffed fried pork skin snacks or shaped, e.g. to a gnawable dog's bone. Mechanical degreasing prevents denaturation, and gelatinising can take place at a lower temp. The process is not limited to pre-degreased animal parts and raw skins. Fried prods. have no hard centres. 24.5.78 as 822658 (38pp200)

MERC- ★ D13 60155B/33 ★DT 2903-091

Food prod. consisting of opt. filled, pref. tubular net - is extruded in one piece through nozzle contg. rotatable annular parts

MERCER F B LTD (CADB) 31.01.78-GB-003912
(09.08.79) A23g-01 A23g-03 A23k-01 A23l-01

Food prod. e.g. snack, consists of an edible material net extruded in one piece. The prod. pref. contains edible component(s) in addn. to the net, which is solid and acts as support for the other component(s).

The net imparts a new, decorative structure, and allows prod. taste to be noticed more quickly. The net may also provide a sheath for a fatty or sticky filling.

The net may be tubular and the other component(s) are filled in tube centre, as a support for the tubes. The net may also be flat, bent or basin-shaped. Net material may be based on a cereal, sugar, fat e.g. chocolate or a chocolate-flavoured material. The net may be coated with an edible material. The food prod. may comprise more than one extruded edible net. 26.1.79 as 903091 (25pp200).

WEAR- ★ D13 60190B/33 ★DT 2904-587

Portable popcorn appliance - with hot air blower and working chamber for maintaining fluidised bed of corn (NL 8.8.79)

WEAR-EVER ALUMINIUM 06.02.78-US-875339
(09.08.79) A23l-01/18

A portable appliance for the prepn. of popcorn includes an air heater and a cylindrical working chamber in which the circulating hot air maintains a fluidised bed of corn. The burst grains rise in the column and are discharged on top.

This is a simple device which is portable and can be handled by unskilled persons. The treatment is of short duration and can be carried on continuously if desired. 5.2.79 as 904587 (37pp39)

SNOW ★ D13 60197B/33 ★DT 2904-632

Small ice piece-contg. ice cream mfr. - by mixing half-frozen ice cream with comminuted frozen blocks of edible liq. and stabiliser

SNOW BRAND MILK PRODUCTS 08.02.78-JA-013291
A97 (09.08.79) A23g-09/22

Ice-cream contg. distributed small ice pieces is made by (i) preparing ice blocks by freezing a stabiliser-contg. edible liq. capable of freezing; (ii) breaking the ice blocks into small ice pieces; (iii) cooling the small ice pieces by contact with a coolant and (iv) mixing the cooled pieces with half-frozen ice-cream. The stabiliser may be gelatin, carrageen, gum arabic, guar gum, carob bean flour, furcelleran, tamarind, pectin, xanthan gum, Na alginate or carboxymethyl cellulose.

The small ice-pieces do not melt even when mixed into ice-cream. The colour and taste of the pieces do not mix with the ice-cream itself. An ice-cream is obtd. in which the ice pieces differing in taste are embedded as decoration and can shine like jewels. 7.2.79 as 904632 (16pp200).

CHIN D13 04320Y/03 =GB 1550-644

Cultivating yeast for animal consumption - on fermentation medium obtd. by hydrolysing plant waste contg. cellulose and polysaccharide

CHINOIN GYOGYSZER 02.06.75-HU-CI1581
*C03 (D16) (15.08.79) *DT2631-473 C12b-03/08 C12c-11/22 +C12d-13/06*

Process for culturing an edible fungal microorganism, comprises (1) hydrolysing, with dilute acid, vegetable matter contg. cellulose having an average chain length of < 1 mm and contg. ≥ 10 wt.% other polysaccharides, (2) removing unchanged cellulose fibres from the hydrolysate, (3) adding sources of N and phosphate assimilable by the microorganism and adjusting the pH to 3-6 to produce a fermentation medium, (4) culturing the microorganism on the medium and (5) harvesting the microorganism.

Pref. the microorganism belongs to the genus Candida, esp. C. tropicalis. Pref. the vegetable matter is corn stalks or sunflower stalks and waste, cereal crushings, reeds, fallen leaves or algae. Prods. are used as animal feedstuffs. 28.5.76 as 022436 (4pp992)

MONS D13 41659Y/24 =GB 1550-703

Non-flatulence producing soya prod. - prepd. by treating defatted soya flour with brewers yeast in acid medium

MONSANTO CO 08.12.75-US-638561
*(15.08.79) *BE-849-141 A23l-01/20*

A deflatulated soy prod. is prepd. by contacting defatted soy meal in an aq. mash with non-dried live brewer's bottom yeast for 100-300 mins. at 40-65°C, pH of 5-6 and water concn. of 25-60 wt.%, and recovering the deflatulated prod.

Pref. the pH used is 5.5. After contact with the yeast, the soy prod. is heated to 90-125°C for 0.5-5 mins. to sterilise the prod. and inactivate the yeast. The prod. is dried to a moisture content < 10% following contact with bottom yeast.

The dried prod. can be processed directly into dairy prods., baked goods and prepd. comminuted meats, or can be ground into soy flour or grits which can be separately used as a substit. or supplement for non-fat dry milk solids in various food applications. 7.12.76 as 050941 (3pp)

GLAB/ ★ D13 60232B/33 ★GB 2013-470

Sodium di:acetate, dehydrated whey feed additive mixt. - for increasing the milk yield of dairy cattle

GLABE E F 21.08.78-US-935540 (02.02.78-US-874430)
C03 (15.08.79) A23k-01/08

Feed supplement for dairy cattle comprises sodium diacetate and dehydrated whey mixt., pref. in the weight ratio range of 25:1 to 1:4.

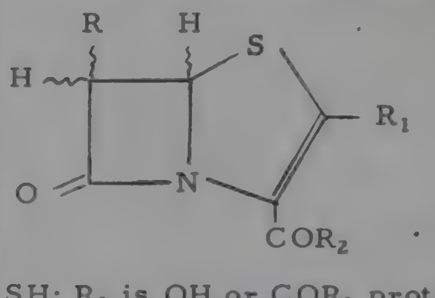
Feed additive was prepd. contg. sodium diacetate (50% wt.), spray dried whey (35.3% wt.), $CaCO_3$ (8.2% wt.), bentonite (5.0% wt.), mineral or coconut oil (1.0% wt.) and zeolex (sodium aluminosilicate anti caking agent) (0.5% wt.). 8.1.79 as000604 (4pp916)

CIBA ★ D13 60256B/33 ★GB 2013-674

6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - useful as broad spectrum antibacterials and beta lactamase inhibitors

CIBA GEIGY AG 02.02.78-CH-001140
B02 C02 (D22) (15.08.79) A61k-31/43 C07c-69/14 C07c-125/04 C07c-154 C07d-205/08 C07d-499

Penems of formula (I) and their salts are new:



(I)

(R is an organic gp. bonded to the ring C through a C atom, OH opt. etherified or esterified, or SH or halogen; R_1 is H, an organic gp. bonded to the ring C through a C atom, or etherified SH; R_2 is OH or COR_2 protected carboxyl).

(I) are broad-spectrum antibacterials and they are β-lactamase inhibitors having a synergistic effect in combination with other β-lactam antibiotics. (I) may be used as therapeutic agents, fodder additives, for preserving foodstuffs and as disinfectants. 31.1.79 as 003360 (53pp)

NISW ★ D13 60455B/33 ★J5 4083-910

Oxidn. resistant, transparent edible oil prodn. - by adding lecithin to a mixt. of edible oil and L ascorbic acid after melting

NISSHIN OIL MILLS KK 16.12.77-JA-150675
(04.07.79) A23d-05 C11b-05

Edible oil is prepd. by addition of 0.1-2 wt.% lecithin (or lecithin which is dissolved in edible oil) to a mixt. of edible oil and an effective amt. of L-ascorbic ester after it is melted by heating to 80-120°C and cooled to <700°C.

Pref. the L-ascorbic ester is a monoester obtd. by esterification of L-ascorbic acid with fatty acid, such as L-ascorbic stearate, L-ascorbic palmitate, L-ascorbic laurate, etc., is blended above 50 ppm to the edible oil. The lecithin is pref. soybean phosphatide contg. phosphatidyl choline, phosphatidyl ethanolamine and phosphatidyl inositol as principal components and some neutral oil, or phospholipid obtd. by fractionation using solvent (e.g.

acetone, ethanol). Edible oils such as bean oil, rapeseed oil, corn oil, sunflower oil, rice oil, peanut oil, palm oil, tallow, lard, hydrogenated or blended oils, etc. are used.

Crystallisation, clouding and precipitation does not occur. The oil has sufficient vitamin C activity. 16.12.77 as 150675 (3pp170)

NISW ★ D13 60456B/33 ★ J5 4083-911
Prepn. of oil contg. lecithin and L-ascorbic acid ester - by blending in presence of mono:glyceride of unsatd. fatty acid to provide stable mixt.
NISSHIN OIL MILLS KK 16.12.77-JA-150676
(04.07.79) A23d-05 C11b-05

In the prepn. of fatty oil by blending lecithin and L-ascorbic ester monoglyceride of unsatd. fatty acid is coexisted with the fatty oil.

Transparent stable fatty oil contg. éffective amts. of lecithin and L-ascorbic ester (e.g. L-ascorbic stearate) is prepd. It has high stability against oxidn. and has good transparency matter has favourable transparency. Crystallisation, clouding and pptn. do not occur. 16.12.77 as 150676 (4pp170)

LIOC ★ D13 60532B/33 ★ J5 4084-040
Emulsified foods, e.g. mayonnaise or salad dressing, prepn. - by emulsifying aq. phase contg. locust bean gum and phosphate with oily phase contg. xanthan gum
LION DENTIFRICE KK 14.12.77-JA-150049
(04.07.79) A23d-05 A23l-01

Method comprises (a) combining locust bean gum and phosphate in aq. phase, (b) combining xanthan gum in oily phase, (c) adding the oily phase to the aq. phase and (d) emulsifying the mixt.

Emulsified food of high viscosity can be easily prepd. with relatively small amt. of emulsion stabiliser. At emulsification the mixt. is not highly viscous, but with lapse of time the xanthan gum in the oily phase is slowly transferred to the aq. phase and reacts with the locust bean gum. As a result the emulsion becomes viscous after the emulsification and a stable o/w type viscous emulsion is obtd. Although the synergic effect between locust bean gum and xanthan gum is usually very weak in acidic conditions, the effect is intensified by the presence of phosphate even in acidic conditions.

The locust bean gum, phosphate and xanthan gum are pref. used at 0.1-1.5 wt.%, 0.001-0.2 wt.% and 0.05-1.0 wt.%, respectively, w.r.t. the desired emulsified food. Method can be used for preparing mayonnaise, salad dressing, tartar sauce, sandwich spread, etc. 14.12.77 as 150049 (7pp5)

QPPP ★ D13 60533B/33 ★ J5 4084-041
Oil-in-water emulsified food material prodn. - involves emulsifying solid oil and fat with emulsifier and water and diluting with aq. soln.
Q.P. CORP 14.12.77-JA-150283
(04.07.79) A23d-05 A23l-01

Method comprises emulsifying the solid oil and fat which is solid at > 0°C with an emulsifier and water to obtain an o/w type emulsion and diluting it with an aq. soln.

The o/w type emulsion is not converted to w/o type emulsion during its preservation. The obtd. o/w type emulsion can be preserved stably and can be added to a pickling soln. for ham and other aq. soln. to supply solid oil and fat.

As the emulsifier yolk and serum protein can be used and as emulsion aid animal, vegetable and microbial gum may be used. The diluting aq. soln. (water or an aq. soln. contg. salt, sugar, etc.) is used in an amt. of 20-100 pts. wt. w.r.t. 100 pts. wt. of the emulsion. 14.12.77 as 150283 (4pp5)

SEIW- ★ D13 60534B/33 ★ J5 4084-045
Freezing foods in aq. liquor of lower freezing point - comprising inorganic salt and organic salt and/or difficulty crystallisable or non-crystallisable organic substance
SEIWA KASEI KOGYO K 14.12.77-JA-149201
E12 (04.07.79) A23l-03/36

The method comprises freezing foods using a brine having freezing point 0-70°C, which is an aq. soln. contg. (a) inorganic salt and (b) organic acid salt and/or (c) difficulty crystallisable or noncrystallisable organic substance.

By controlling the amt. of the solute (a), (b) and/or (c), the freezing point of the brine can be lowered using a relatively small amount of inorganic salt and foods can be frozen with it without impairing their taste due to the impregnation of inorganic salt. The foods can be frozen at sufficiently low temp. in a short time, thereby maintaining the freshness of the foods and preventing loss of quality.

Suitably salt (a) is sodium chloride, calcium chloride, magnesium chloride, etc., salt (b) is sodium malate, sodium citrate, sodium acetate, etc.; and (c) protein hydrolysate, sorbitol, propylene glycol, etc.

Examples of brine and compsns. f. pts. are (1) 7% NaCl and 30% NaOAc soln. f. pt. -38°C; (2) 13.6% NaCl and 30% protein hydrolysate f. pt. -34°C and (3) 5% NaCl, 30% NaOAc and 10% propylene glycol, f. pt. -58°C. 14.12.77 as 149201 (3pp5)

TOPP ★ D13 60537B/33 ★ J5 4084-054
Sweetening and maintaining freshness of kyoho (grapes) - involves filling in vessel with freshness maintaining agent which generates carbon di:oxide
TOPPAN PRINTING KK 14.12.77-JA-150334
(04.07.79) A23b-07/14

Sweetening and keeping freshness of Kyoho (I) (a large purple grape) is effected by filling (I) in a vessel, with freshness-keeping agent (II) which generates CO_2 and is packed in steam-permeating material (III).

(I) can be storaged for 5 days and astringency of (I) can be removed after about 24 hrs. (II) is (1) mixt. of Fe(II) sulphate heptahydrate and Na hydrogen carbonate, (2) mixt. of Fe(II) sulphate heptahydrate, Ca hydroxide and Na hydrogen carbonate or (3) mixture of > 50 wt.% of adsorbent and the mixt. of (1) or (2), and the compsn. of (3) is pref. As adsorbent, bentonite, zeolite and active carbon are listed. 14.12.77 as 150334 (3pp42)

HONS ★ D13 60538B/33 ★ J5 4084-056
Treating apple puree with beta-galactosidase - to decompose anthocyanin contained in the apples without impairing colour or taste
YAKULT HONSHA KK 19.12.77-JA-151706
(D16) (04.07.79) A23l-01/21 A23l-02/02

Apple puree (I) is mixed (I) with β-galactosidase (II). Anthocyanine contained in apple fruits can be decomposed by (II) without decrease of yield of (I) produced from apples.

When 10,000 units of (II) are mixed with 1 kg of (I) and the mixture is kept at 40°C for 15-30 min., discoloration of (I) can be prevented. As (II), that produced by Aspergillus oryzae and Asperigillus niger is pref. used. (II) is prepared by culturing these microbes in a culture medium contg. wheat bran at 30°C for 4-5 days and extracting (II) by usual method. 19.12.77 as 151706 (3pp42)

KIKK ★ D13 60542B/33 ★ J5 4084-068
Mfg. lactic acid-contg. drink of enhanced taste - by adding propylene glycol alginate, hydroxide and salts of sodium, potassium and/or calcium to raw material contg. bean protein and ferment
KIKKOMAN SHOYU KK 13.12.77-JA-148823
(D16) (04.07.79) A23c-09/12 A23c-11 A23l-01/20

Prodn. of lactic acid-drink (I) comprises (1) adding 0.1-0.6 w/v% propylene glycol alginate (II) and hydroxide, inorganic salts and /or organic salts of calcium, sodium and/or potassium, to (I)-raw material contg. protein of beans as principal component, (2) sterilising the raw material, if necessary, and (3) fermenting lactic acid bacteria.

. Pref. the hydroxide and/or salts of metals are added so that an ionic strength of 20-80 x 10^{-3} is obtd. The lactic acid bacteria is Lactobacillus acidophilus, Lactobacillus casei, Lactobacillus bulgaricus, Streptococcus thermophilus, etc. The polymerization degree of (II) is such that a 2 w/v% soln. of (II) has a viscosity of 50-3000 cp. 13.12.77 as 148823 (7pp42)

AJIN ★ D13 60543B/33 ★ J5 4084-072
Non-hygroscopic caramel prodn. - by extruding di- and/or monosaccharide continuously from extruder and grinding
AJINOMOTO KK 12.12.77-JA-148958
(04.07.79) A23l-01/27

Prodn. of caramel (I) comprises extruding mono-saccaride and/or disaccharide continuously at 150-300°C from a extruding machine and then grinding it to powder. As the raw materials, the mixt. of ≥ 1 monosaccharide and 1 α-starch and dextrin are pref. used, and 5-25 wt.% of water based on α-starch and/or dextrin are added to the mixt. and pH of the mixt. is maintained 2-4 with the addn. of acid, such as formic acid, acetic acid, citric acid, HCl and H_2SO_4, etc.

Previously (I) is produced by caramelisation of saccharides in wet-methods and spray-drying, and these methods are expensive and (I) obtd. is hygroscopic. Now, non-hygroscopic (I) is produced continuously and inexpensively. 12.12.77 as 148958 (5pp42)

GENO ★ D13 B/33 ★J5 4085-966
Dog-foods of improved edibility
GENERAL FOODS CORP 19.12.77-US-862256
C03 (09.07.79)
4.12.78 as 149903

KOIZ/ ★ D13 60877B/33 ★J5 4085-967
Feedstuff with high protein, carbohydrate and digesting enzyme content - prepd. by yeast cultivation in medium contg. rice bran, soy-sauce dregs and inorganic nitrogen cpd.
KOIZUMI T 15.12.77-JA-149957
C03 (09.07.79) A23k-01

Rice bran is mixed with dregs of soy sauce, and then an inorganic nitrogen cpd. is added in such an amt. as not to inhibit growth of yeast, and yeast is cultivated on the obtd. medium to give a feedstuff. Typically, 100 kg rice bran, 20 kg dregs of soy sauce, 3 kg ammonium diphosphate, 30 litres of water, and 50 g yeast (Aspergillus oryzae) are blended together and cultivation is conducted at 30°C for 48 hours, 145 kg of feedstuff contg. a large amt. of protein, carbohydrates, and active digesting enzymes is obtd.

When a cow is fed with the obtd. feedstuff, gain of body wt. is remarkably improved compared with the use of conventional feedstuffs. 15.12.77 as 149957 (4pp22)

NASA- ★ D13 60878B/33 ★J5 4085-968
Feedstuff for cows, pigs, etc. - contains polysaccharide, sugar alcohol, glycol and anionic and/or nonionic surfactant as well as conventional components
NASA KK 15.12.77-JA-150995
C03 (09.07.79) A23k-01/16

Improved feedstuff compsn. comprises a polysaccharide, sugar alcohol, glycol, and an anionic and/or nonionic surfactant having an HLB of ≥5, as well as conventional feedstuff components. The properties of meat of cows, pigs, etc. are improved.

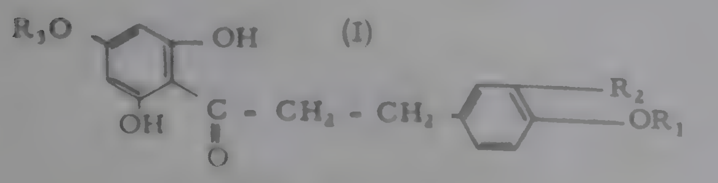
In an example, 41 pts. wt. of sorbitol and 31 pts. wt. of propylene glycol are dissolved at 60°C in a mixt. of 16 pts. wt. galactomannan and 16 pts. wt. glucuronogluco mannan. Polyoxyethylene lauryl ether, alkyl benzene sulphonic acid salt, polyoxy ethylene sorbitan monolaurate and water are then added to the soln. The resultant is mixed with a conventional feedstuff compsn. 15.12.77 as 150995 (3pp22)

TSUB ★ D13 60910B/33 ★J7 9020-431
Growth-promoting feed additive - is obtd. by culturing Penicillium cyclopium westling
KUMIAI CHEM IND KK 21.04.72-JA-039544
B02 C02 (D16) (23.07.79) A23k-01/16 A61k-35/84

The additive comprises a growth-promoting substance obtd by culturing Penicillium cyclopium westling which shows no anti-bacterial activity. 21.4.72 as 039544 A23k-1/16; A61k-35/84 (23.7.79) KUMIAI KAGAKU KOGYO KK (4pp83)(J49005765)

ASAH D13 64245T/40 =J7 9020-583
Dihydrochalcones - as edible oil and fat (contg food) preservatives
ASAHI CHEMICAL IND KK 08.02.71-JA-004711
*E14 (24.07.79) *J47019-046 +A23l-03/34 C11b-05*

Cpds. have the formula (I):-



(I)

where R_1 is H, CH_3, C_2H_5, C_3H_7, C_4H_9, R_2 is H, OH; R_3 is rhamnoglucoside, and are added during or after the prepn. of edible oil and fat or of food contg. > 1 wt.% of oil and fat. 8.2.71 as 004711 A231-3/34, C11b-5/00 (24.7.79) ASAHI CHEMICAL IND CO LTD., (5pp) (J4701 9046)

SUNZ D13 69423X/37 =J7 9020-584
Antibiotic compsn for treating food, table ware, etc - to control moulds and bacteria, comprises mint water obtd by steam distilling mint oil
SUN STAR DENTIFRICE 24.01.75-JA-010855
*B04 (D22) (24.07.79) *J51086-119 A23l-03/34*

Antibiotic compsn. for application to foods, table ware, cooking ware, food-preserving ware, etc., contains mint water as the effective ingredient. Mint water is the first distillate up to 210 kg (distillate of about first 50 mins.) obtd. by steam distillating mint oil 100 kg. for 4 hrs. under conditions to obtain a distillate (I) contg. oil 97 kg. When the distillate (I) is divided into 3 fractions, only the first fraction 330 kg shows antibiotic activity. The first fraction is further divided into 8 smaller fractions, of which the first 5 fractions only show antibiotic activity. The antibiotic compsn. are effective not only against bacteria but also against moulds, and are vaporised by heating during cooking. They do not produce any harmful effect on table ware. Hitherto the first distillate has been discarded.

In an example, a compsn. composed of mint water 20%, ethanol 20% and distilled water 60% was sprayed on surface of rice cakes, and the rice cakes were presered in polyethylene bags at 38°C for 48 hrs. without growth of moulds In a control, numerous moulds grew on the rice cakes. 24.1.75 as 010855 A231-3/34 (24.7.79) SUN STAR DENTIFRICE (3pp)(J51086119)

RALS D13 72004S/45 =J7 9020-589
Simulated meat prodn
RALSTON PURINA CO 18.05.70-US-038601
*(24.07.79) *BE-766-490 A23j-03*

Process for preparing expanded porous foodstuffs with a dry soft texture and which resemble meat by (a) choosing a sec. protein source from oil-bearing seed flour, farinaceous byprods. and microbiological proteins with a protein content of 30-75 wt.%, (b) incorporating an organic solvent in an amt. of 10-50 wt.% (based on the mixt.), (c) mechanically working the mixt. and at the same time applying high pressures and (d) heating to a temp. > 100 °C for enough time to convert the flour to a fluid material, (e) mechanically extruding themixt. which is heated and maintained under pressure and passes through an orifice to an atmosphere of lower pressure. This dilates the prod. and forms a network with a dry elastic texture and the taste and flavour characteristics of meat.

The properties of the prod. may be varied using this process, the process is very simple and the prod. is stable on storage. 18.5.71 as 033013 (clg. 18.5.70-US-038601) A23j-3/00 (24.7.79) RALSTON PURINA CO (7pp) (J47001322)

CADB ★ D13 60958B/33 ★NL 7801-144
Cocoa butter substitute - made by partial hydrogenation of a vegetable fat followed by pressing to remove liq. oil(s)
CADBURY INDIA LTD 01.02.78-NL-001144
(03.08.79) A23g-01 C11c-03/12

Modified vegetable fats are made by first partially hydrogenating a refined, bleached and deodourised vegetable fat in the presence of a known metal catalyst. The resulting hardened fat is then subjected to a hydraulic pressure of 1375-4830 kPa in a controlled temp. range of 20-35°C. Suitable fats are derived eg from 'sal' seeds, mowrah, phulwara or mango pips.

The treated fat is esp. useful as a replacement for cocoa butter in the prodn. of chocolate and candy coatings for confectionery. The fat is compatible with cocoa butter, cocoa liquor and milk fat; has a very short melting range; melts easily in the mouth without leaving a waxy taste; hardens quickly; is resistant to the formation of grey tints on the surface; and has a controlled shrinkage on cooling, so that it can be removed easily from moulds. 1.2.78 as 001144(14pp513).

ADB ★ D13 60959B/33 ★NL 7801-145

ocoa butter substitute - made by partial hydrogenation of a egetable fat followed by thermal crystallisation to remove high elting glyceride(s)

CADBURY INDIA LTD 01.02.78-NL-001145

(03.08.79) A23g-01 C11c-03/12

odified vegetable fats are made by first partially hydroenating a refined, bleached and deodourised vegetable fat ontg. glycerides of 16, 18 and 20 C acids, in the presence f a known metal catalyst. The high melting glycerides are hen removed from the resulting hardened fat by thermal rystallisation at a temp of ≈ 30-40 °C. Suitable fats are erived eg from 'sal' seeds, mowrah, phulwara or mango ips.

The treated fat is esp. useful as a replacement for cocoa butter in the prodn. of chocolate or candy coatings for confectionery. The fat is compatible with cocoa butter, cocoa liquor and milk fat; has a very short melting range; melts easily in the mouth without leaving a waxy taste; hardens quickly; is resistant to the formation of a grey tint on the surface; and has controlled shrinkage on cooling, so that it can be removed easily from moulds. 1.2.78 as 001145(14pp513).

ALKE/ ★ D13 60962B/33 ★NL 7900-561

Brussels sprout rotary stripper with blade retraction - enabling sprouts with stems of irregular thickness to be stripped without loss of speed

ALKEMADE A J C 26.01.78-GB-003179

*(30.07.79) A23n-15/**

Brussels sprouts are stripped from their stems by means of a rotating cutting head comprising two discs, the first of which carries a series of cutting blades whilst the second disc normally rotates with the first, but, on the application of a braking force to one of the discs, undergoes a limited angular displacement relative to the first disc.

Both discs are equipped with a central hole through which the stem of the brussels sprout passes. The blades are attached to arms which swing freely from pins on the surace of the first disc. The blades are restrained to move in toward the axes of the discs by springs. When it is wished to insert a stem, the brake is applied to one disc, whereupon the arms carrying the cutting blades are caused by the angular displacement of the two discs to swing away from the axis.

Once inserted, the brake is released and the blades are again pulled to the middle. As the stem is pulled through the discs, the blades strip the sprouts from the stem. Since the blades are individually sprung, they can readily accommodate variations in the thickness of the stem. 24.1.79 as 000561(10pp1370).

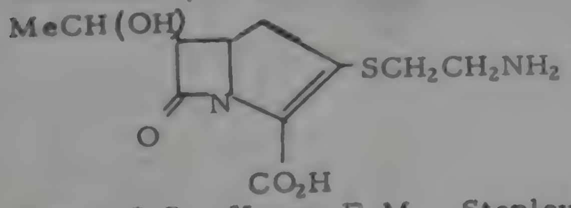
MERI D13 31696X/17 =SU -576-967

Broad spectrum antibiotic thienamycin - from aerobic cultivation of Streptomyces cattleya

MERCK & CO INC 25.11.74-US-526992

*B02 C02 (D16 D22) (17.11.77) *US3950-357 C12d-09*

Antibiotic thienamycin (I) has been prepd. (I) is a nontoxic broad-spectrum antibiotic active against Gram +ve and Gram -ve bacteria (incl. some penicillin and cephalosporin resistant strains). (I) may also be used as disinfectants (for medicinal equipment, paints, and paper mill white water etc.) and is additives to animal feedstuffs.



Kagan J.S., Kagan F.M., Stepley E.O. et al. Bul. 38/ 15.10.77 24.11.75 as 191704 (9pp)

KATS/ ★ D13 61063B/33 ★SU -579-979

Separating peas into first grade and over-ripe - by immersing in water at 98 degrees C where over ripe peas split open and sink while first grade peas remain floating

KATSAI B E 30.03.76-SU-341211

(07.02.78) A23n-15

Method for sepg. green peas into the graded and overripe portions involves first soaking them in liquid. The accuracy of the sepn. is increased by heating the liquid to 98-103 °C and keeping the peas in contact with it for 4-11 mins.

The green pea pods are loaded into the hot liquid (at 98 °C) and kept there until they start to split open. The splitting of the overripe pods sets in after only 4 mins., while the pods of 1st grade peas only begin to split after 12 mins have elapsed. The two kinds are separated by the one floating and the other sinking (the latter being the overripe which have split open).

Katsai B.E., Minikh A.R., Lisitskii V.V. et al. Bul. 42/ 15.11.77 30.3.76 as 341211 (1pp29)

AUHY= ★ D13 61080B/33 ★SU -593-693

Granulated animal, e.g. fish, feed additive - contg. specified mineral salts and antibiotics, useful for breeding carps in warm effluent waters from power stations etc.

AS UKR HYDROBIOLOGY 03.05.76-SU-357542

C03 P14 (26.01.78) A01k-61 A23k-01/22

Mineral additive contains (in wt.%) $MNSO_4$ 0.04-0.06, $MgSO_4$ 1.80-2.20, $ZnSO_4$ 0.04-0.06, NaCl 29.0-36.0, $NaHCO_3$ 22.0-27.0, $(NH_4)_2HPO_4$, baciliguine 1.50-1.80, biomycin 0.50-0.60, $CoCO_3$ or $CoCl_2$ 1.16-0.18; the balance is chalk.

The compsn. normalises metabolic processes in the fish organism. These additives supplement the effluent water with elements necessary for fish well-being. The growth rate of the carps is increased by 27-43%.

Romanenko V.D., Arsan O.M., Solomatina V.D. et al Bul. 7/25.2.78 3.5.76 as 357542 (2pp70)

INTE- ★ D13 61089B/33 ★SU -606-532

Grain feeder supplying a drier - has inlet pipe mounted so that grain goes into gap between two rollers, one with needles and other with rubber surface coating

INTERCOOP KERESKEDE 03.12.71-HU-NE1598

(24.03.78) A23n-09

Device for feeding grain to a drier, comprises feeder, operating unit, and discharger. Drying effectiveness is increased by breaking open the surfaces of the grains using the two rollers in the working unit as they rotate towards one another. These rollers are arranged in the horizontal plane with a gap between them through which the grain passes. The surface of one of the rollers has needles and the other roller is able to move backwards and forwards horizontally, and has a smooth covering of an elastic material, such as artificial rubber. The discharger is a rake bent over into an arc, mounted so that its teeth pass between the needles, and can be positionally adjusted with connecting link and gripping screw.

Shlezak I., Bul. 17/5.5.78 27.11.74 as 857004 (3pp29)

UMEA= ★ D13 61131B/33 ★SU -631-133

Condensed milk with sugar prodn. - include enzymic hydrolysis of lactose to glucose and galactose using beta-galactosidase

UKR MEAT DAIRY IND 02.10.72-SU-832099

(10.11.78) A23c-09

1(A

The condensed milk with sugar is produced by pasteurising milk; cooling; thickening the milk with a sugar syrup; cooling; and carrying out fermentative hydrolysis of the lactose in milk to glucose and galactose using a prepn. contg. β-galactosidase obtd. from yeasts Saccharomyces fragilis.

The cooling operation is simplified and the quality of the prod. is improved by effecting the fermentative hydrolysis after cooling the milk to 5-40°C for 0.5-12 h. The fermentative prepn. is used in an amt. of 0.1-5.0 wt. % the lactose content in the milk. The cooling after the thickening operation is pref. carried out continuously.

Popova N.G., Gulyev-Zaitsev S.S., Muraveva T.P. et al Bul. 41/5.11.78 2.10.72 as 832099 (2pp70)

VINN= ★ D13 61132B/33 ★SU -631-134

Filling moulds with candy mass - using measuring cylinders with plungers, and movable and stationary strips with holes to control the filling flow

VINNITSA TECHNOL IN 20.06.77-SU-499238

(10.11.78) A23g-03/16

Device for moulding the bodies of candies in moulds, using fondant, jelly, etc., materials, comprises a loading container, measuring cylinders with plungers, movable strip

with holes, which performs a forwards-backwards motion and a stationary strip with exit holes. The quality of the candy bodies is improved, on account of eliminating the overflow of the mass, by placing the movable strip so that it can move along the direction of the moving moulds, and its movement does not exceed the max. dimensions of the holes in the stationary strip.
Livshits A.S., Bul. 41/5.11.78 20.6.77 as 499238 (5pp29)

AUHE= ★ D13 61134B/33 ★SU-631-136
Candied peel of citrus fruit treatment - includes blowing air heated to boiling temp. of sugar syrup to accelerate drying
AS UKR HEAT PHYS 11.05.77-SU-493952
(10.11.78) A23b-07/02 A23l-01/06

Drying of candied peels of citrus fruits by hot-air blowing is accelerated (2-3 times) and the quality of the prods. is improved by using air heated to the boiling temp. of the sugar syrup; pref. the air temp. is 110-120°C, so that the temp. of the candied peels is 105-110°C. The duration of the drying process is 1-2 h.
Kremnev O.A., Borovskii V.R., Mishnaevskii L.M. et al Bul. 41/5.11.78 11.5.77 as 493952 (2pp70)

ODFO= ★ D13 61136B/33 ★SU-631-138
Leaf-remover for processing onions and garlic - has rotating bottom to convey vegetables from loading to unloading zone, while blowing them repeatedly with air
ODESS FOOD SUPPLY 10.06.75-SU-143472
(29.11.78) A23n-15/08

Device for removing covering leaves from onions and garlic, comprises a chamber with rotating bottom and nozzle appts. for feeding air into the chamber. The productivity is increased and continuous operation is guaranteed by installing the nozzle appts. so that it can rotate at a speed exceeding that at which the bottom of the chamber rotates. A protective ring is mounted on the nozzle appts.

The onions are fed into the loading area and taken up by the rotating bottom, with separators around the edge, and conveyed to the unloading zone. During the time they are moving round, the onions are subjected to repeated action of jets of air coming through the nozzles, which removes the outside leaves. The air is fed to the nozzles through the hollow shaft from an air-duct.
Veksler R.E, Rozenberg A.V., Vainshtok Yu.G. et al. Bul. 41/5.11.78 10.6.75 as 143472 (2pp29)

GAVR/ ★ D13 61307B/33 ★SU-631-517
Ethoxy tri:methyl di:hydro-quinoline sulphate salt prepn. - by reacting parent quinoline with sulphuric acid in aq. ammonium sulphate, used as medicinal, animal growth stimulant and stabiliser
GAVRIKOVA M A 10.01.77-SU-441989
B02 C02 (25.11.78) A61k-31/47 C07d-215/10

6-Ethoxy-2,2,4-trimethyl-1,2-dihydroquinoline sulphate salt (I) is used as pharmaceutical, animal growth stimulant and as a stabiliser of carotene in fragmented grass.

It is prepd. more simply by reacting 6-ethoxy-2,2,4-trimethyl-1,2-dihydro-quinoline (II) with sulphuric acid (III) in 17-20% aq. ammonium sulphate (IV) soln. The reaction is conducted at 3-7°C using molar ratio (II):(III):(IV) = 1:1.75:0.75.
Gavrikova M.A., Tarkhova T.G., Zvegintseva G.B. et al Bul. 41/5.11.78 10.1.77 as 441989 (2pp938)

SAVK/ ★ D13 61314B/33 ★SU-631-524
Vegetable oil prodn. from oil-contg. fruit - includes diluting pressed-out juice in water, adding yeasts or wine and pouring off surface oil
SAVKIN V A 01.09.76-SU-403703
(25.11.78) C11b-01

The process is used for producing vegetable oil from oil-contg. fruit, e.g. from sea buckthorn fruits. The fruits are pressed and oil is sepd. from the pressed-out juice. In order to simplify and improve the sepn. of oil and juice the process involves diluting the juice in water and adding to the obtd. soln. sugar in amt. 3-10% or wt. of mixt. and also 0.5-3% yeast or 2% wine. After mixing, the mixt. is held for 2-3 days at 20-50°C and the surface oil is poured off.
Savkin V.A., Platunov P.A, Bul. 41/5.11.78 1.9.76 as 463703 (2pp912)

GREE/ ★ D13 61469B/33 ★US 4162-972
Apparatus for treatment of turbid liquid - by gas injection to form foam
GREEN G G 24.08.78-US-936640 (29.04.77-US-792099)
P41 (31.07.79) B01f-03/04 B03d-01/24

A turbid liquid is clarified by flocculation by injecting a gas to form a foam. The process is carried out using an injection vessel into which a gas is continuously injected into the liquid. A foam forms on top of the liquid while floc components form within the liquid. The foam is retained in the injection vessel to prevent its escape.

Gas escaping from the surface is reinjected into the liquid together with some of the foam to eliminate loss of liquid in the form of foam. The liquid is transferred to a closed flocculation vessel wherein the liquid is retained. It forms a three-phase system comprising liquid at the bottom, high solid floc on top, and on top of that frothing gas. Liquid and floc are withdrawn from their appropriate levels.

The system is used for clarifying a turbid liquid such as a fruit juice. The process results in an optimally clarified product with minimal loss of the liquid. 24.8.78 as 936640 (7pp295)

GRAI ★ D13 61488B/33 ★US 4163-010
Protein isolation from corn steep liquor - by ultrafiltration and treatment of retentate with base
GRAIN PROCESSING CORP 27.04.78-US-900499
(D21) (31.07.79) A23j-01/16

Corn steep liquor is subjected to ultrafiltration and the retentate is treated with an alkaline reagent to ppte non-protein materials. The ppte is then removed. The retentate may then be dried.

The protein obtd. may be used in foods or cosmetics. It has good whipping properties and is soluble in acid media. The liquor is not changed by the process, and can be recovered. 27.4.78 as 900499 (5pp955)

EMER/ ★ D13 61505B/33 ★US 4163-066
Fat compsn. for popping popcorn - comprises high melting point hydrogenated oil and fine particle size salt
EMERICK R D 10.11.77-US-850447
(31.07.79) A23d-05 A23l-01/18

A compsn. for popping popcorn comprises free-flowing particles of solid hydrogenated edible vegetable oil of mean size about 0.2 ins, but $\not>$ 1 inch, consisting of triglycerides of 16-18C acids, having a melting pt. above 122°F. Homogeneously dispersed throughout the oil is 5-50 wt. % of a water soluble edible inorganic salt of particle size $\not>$ 100 mesh.

The compsn. produces less smoke and fumes than coconut oil, and does not give rise to charring and tar formation on equipment. It is easily handled and easily swept up in the event of spills. 10.11.77 as 850447 (6pp955)

MACA- D13 11010A/06 =US 4163-067
Recovery of section from liquorice root - which does not contain glycyrrhizin
MACANDREWS & FORBES 02.02.77-US-764896 (14.06.76-US-695537)
*(31.07.79) *J52153-998 A23l-01/22*

Deglycyrrhizinated fractions are recovered from water insoluble licorice root residue remaining after the extraction of fresh root with an unbuffered aq. extractant of pH 3-12, to obtain prim. root extracts of pH 5-6.

The process comprises treating the residue with an aq. alkaline extractant to produce an aq. alkaline extract of pH $<$ 10 and an insoluble residue. The residue is then separated and isolated to obtain the extract. The alkaline extract is then acidified with sufficient acid to pH 2-6 to form an acid soluble fraction and an acid insoluble residue. The fraction obtd. from the residue is then separated and isolated, and the acid insoluble residue treated with sufficient alkali to solubilise and alkalify the residue to pH 8-10, thus forming an alkali soluble fraction.

The acid soluble- and alkali soluble fractions are then recovered. Each fraction is free of glycyrrhizin, and lacks the flavour characteristic of licorice. 2.2.77 as 764896 (7pp931)

NFL ★ D13 61506B/33 ★US 4163-068
nhancing aroma or taste of foodstuffs etc. - by addn. of terpenyl ther consisting of 1,8 di:methoxy-para-menthane or 1,8-di:ethoxy-ara menthane
INT FLAVORS & FRAGR INC 05.09.78-US-939897 (27.01.78-US-872937)
B07 E15 (B05) (31.07.79) A23l-01/22

he aroma or taste of a foodstuff is augmented or enhanced y adding 0.5-100 ppm of a 10C terpenyl ether selected rom 1,8-dimethoxy-p-menthane (I) and 1,8-diethoxy p-nenthane (II). (I) or (II) may be used together with an ad-uvant such as oil of coriander, oil of patchouli, α- or β-inene, capsicum, clove oil or oil of peppermint. A pref. lavouring compsn. comprises 0.1-15 wt.% of (I) or (II) nd the balance the adjuvant(s).

Method is also applicable to chewing gum, toothpastes, erfumes, medicinal prods., etc. The Parent Patent claimed method using certain pinocarvyl aliphatic ethers.
5.9.78 as 939897 Div. ex 4131687 (47pp927)

STAU ★ D13 61507B/33 ★US 4163-069
Non-fat dried milk substitute - contg. lactalbumin, sodium hexa:metaphosphate and modified whey solids
STAUFFER CHEMICAL CO 11.10.77-US-840684
(31.07.79) A23c-21

Substitute for non-fat dry milk contains lactalbumin, Na hexametaphosphate, and modified whey solids obtd. by adding divalent metal ions to raw whey, and adjusting the pH to > 6 at < 60°C to cause pptn. The prod. contains 17-30 wt.% protein, the wt. ratio of whey solids to lactalbumin is 2:1-5:1, and the wt. ratio of Na hexametaphosphate to lactalbumin is 0.05:1 to 0.20:1.

Cheese prods. contain the substitute in place of (part of) the non-fat dried milk. Prod. is inexpensive to produce and does not adversely effect the cheese prods.
11.10.77 as 840684 (7pp955)

TVTI- D13 48953B/26 = WP 7900-494
Meltable hard candy article - forms non-sticky glaze coating on confection without burning or scorching and has good shelf life
TV TIME FOODS INC 12.01.78-US-868815
*(09.08.79) *US4158-064 A23g-03*
D/S: N(CH, DT, DK, GB, JA, SW) + E(FR).

A hard candy bar is adapted to be rapidly melted in a flat bottomed pan without burning or scorching. The bar has a max. moisture content of 6 wt.% and has a main body section with upper and lower planar surfaces. The lower surface has spaced projections extending downwardly from it and a continuous peripheral skirt which extends downwardly the same distance as the projections.

On placing in the pan the projections and skirt form with the bottom of the pan an enclosure for retaining fluid and melted candy syrup on application of heat.

The bar is suitable for melting and then using as a coating for confections such as popcorn, nuts, dried or fresh fruits and puffed cereals.

Even with its low percentage of water the bar can satisfactorily be melted without burning or scorching of the sugar.
9.1.79 as US0005 (16pp295).
(E) ISR: US1581772; US2106097; US1915392; US1087335; US3950567; US3632357; US3826857; US1537669; US2461399; US2217392; US3863020; DT2324343; CA935322.

See Also

D16 DS 2803245 D17 J7 9020581 D23 DT 2804597
D23 J7 9020500

D14: FOODSTUFF MACHINERY

STOC- D14 11125W/07 = DS 2334-443
Apparatus for rapid heating of canned foodstuffs - without removal from the cans
FA STOCK H 06.07.73-DT-334443
*P28 (09.08.79) *DT2334-443 A47j-27/18*

A large-scale boiler to dip batches of tins of food into a water bath has a drum with a horizontal shaft which consits of a tubular structure with several (six) compartments, each holding two tins. The holding tubes of each compartment locate the tins with their longitudinal axis tangentially to the circle of rotation. The tin holders are kept in posn. by a snap closure. When this is opened, the support tubes are lowered towards the opening of the charging door.

This facilitates the loading and unloading of the tins and speeds up the cycle. 6.7.73 as 334443 (7pp39)

CRAM- ★ D14 60033B/33 ★DT 2804-343
Mixed fodder preparation machine - with mixing carriage attachable to hammer mill and movable to mangers
MASCH CRAMER 02.02.78-DT-804343
J02 (09.08.79) A23k-01/14 B01f-07

A machine for the prodn of mixed fodder for animal farms consists of a mixing carriage on four wheels, with a horizontal and a vertical work conveyor. This can be matched with the discharge opening of a hammer mill for cereals. When the crushed cereals have been mixed in the carriage with fodder components, the carriage can be moved along the gangway and the mixed fodder discharged directly into the mangers at both sides.

This eliminates any dust emission or fodder transfer operation which leads to segregation of the mixed components. 2.2.78 as 804343 (10pp39)

BACK- ★ D14 60234B/33 ★GB 2013-481
Topping, tailing and/or cutting vegetables such as carrots or peppers - using orientating conveyor and second conveyor with spaced endless chains and associated cutting blades
BACKUS SORMAC BV 02.02.78-NL-001203
(15.08.79) A23n-15/04

Carrots etc. are taken from a feedstock and are transported by a first conveyor which has orientating discs for aligning them. The carrots are dropped onto a second conveyor which comprises a pair of parallel chains with a gap between them. The bottoms of the carrots fall through the gap while their upper ends are supported by the chains. Under-sized carrots fall through the gap.

A presser ensures tight engagement of the carrots before passage beneath blades which remove the tops of the carrots. Pref. the height of the cutting blades is adjustable. 2.2.79 as 003710 (7pp295)

TOKE ★ D14 60276B/33 ★GB 2013-874
Cooking appliance with window - internally coated with indium oxide film to reflect heat back
TOKYO SHIBAURA ELEC LTD 31.01.78-JA-008939
L01 Q74 (15.08.79) F24c-15/04

An appliance, e.g. an oven toaster, has a heating chamber with a window in one side. The window inner surface is coated with a reflecting metal oxide film of a thickness allowing the chamber contents to be viewed from outside.

The film is pref. of indium oxide at least 200 Å thick and is covered by a transparent protective film, e.g. of silica. The arrangement reduces loss of heat through the window. 29.1.79 as 003003 (8pp1358)

UAGR= ★ D14 61137B/33 ★SU -631-139
Mixer for animal feedstuffs - has clutch movable along drive shaft, to close off radial channels through which liquid additives enter
UKR AGRIC ELEC MECH 13.04.77-SU-477287
(15.10.78) A23n-17 B01f-09/08

Mixer, principally for animal feed materials comprises a shaft bearing mixing elements inside the body, in which also an axial channel forms the introduction of liquid additives, connected with radial channels extending away from the surface of the shaft. Loss of liquid additives, when the shaft stops abruptly, is prevented by installing a clutch on the shaft which overlaps the radial channels, and inside which L-shaped arms are positioned, and hinged to the face of the clutch.

The horizontal section of the latter is provided with weights and a support ring which is connected to the shaft, interacting with the vertical sections of the L-shaped arms. Outside the clutch, on the shaft, a limiting ring is mounted and springs are inserted between the ring and the clutch. The value of the openings in the radial channels is regulated with a sleeve on the limiting ring, which can move along the shaft by a threaded connection.
Deshko V.I., Bul. 41/5.11.78 13.4.77 as 477287 (3pp29)

D15: WATER TREATMENT

BOHN/ ★ D15 59870B/33 ★BE -875-553
Waste water activated sludge plant with sec. activation tank - subdivided into a series of high efficiency oxidation chambers
BOHNKE B 15.04.78-DT-816390
(31.07.79) C02c

The plant is of the type employing a second stage activation tank subdivided into a number of aeration compartments in series. In each compartment the water is directed to flow horizontally. through a 180° Bend from inlet to outlet. Each outlet leads into a 180° horizontal return channel which discharges into the next aeration compartment.

Each compartment is now fitted with an airtight cover to form an oxidation chamber which is supplied with oxygen from an external source. The final compartment discharges into a return channel from which treated water can be extracted as the channel recycles water to the first compartment.

Each compartment cover pref. has integral, upstream and downstream walls which extend down into the water to isolate the compartments oxidation chamber from upstream and downstream return channels. The water is pref. driven through the compartments, e.g. by powered propellers fitted in the channels upstream of the compartments. Pref. about 20-25% of the tank area is occupied by the compartment covers.

Increased treatment capacity of new or existing installations is obtained economically without extending the size of installation. 13.4.79 as 875553(21pp448).

ARFF/ ★ D15 59885B/33 ★CA 1059-291
Ozone generator for water purificn. - with ozone generating tubes circumferentially spaced from cooled metallic sockets
ARFF J H 19.09.77-CA-287038
E36 J03 M11 (31.07.79) C02b-01/38

An ozone generating system comprises a housing having a removable end wall and including within it a hollow casing to receive a circulating coolant. An open-ended tube extends through the casing and is formed of electrically conducting material. A glass ozone generating tube having a dia. less than the open-ended tube is supported with the open-ended tube but spaced from it. On the interior of the tube is a silver coating which is connected to a conducting band, this in turn being connected to a conductor which admits high voltage into the tube.

On application of the high voltage ozone is formed in the circumferential space which communicates with the interior of the housing. This in turn has an outlet for the ozone and an inlet for fresh air.

The appartus may be used for making distilled water or in assication with electroplating processes to purify rinse soln. 19.9.77 as 287038 (17pp295)

POLA/ ★ · D15 B/33 ★CS 7603-350
Reactor for partial decarbonisation of water with flocculate
POLAK J 20.05.76-CS-003350
(30.04.79) C02b-01

DITL/ ★ D15 B/33 ★CS 7603-574
Insoluble cpds. elimination from aq. effluents and sludges
DITL P 28.05.76-CS-003574
(30.04.79) C02c-05/12

LAST/ ★ D15 B/33 ★CS 7800-081
Uranium-contg. waste water purification
LASTOVKA R 03.01.78-CS-000081
K08 (30.04.79) G21f-09/04

VRAN/ ★ D15 B/33 ★CS 7800-369
Floating impurities exhauster for small biological cleaning plant
VRANA F 19.01.78-CS-000369
(30.04.79) C02c-01/36

WOLF/ ★ D15 B/33 ★CS 7800-505
Machines and vehicles washing water regeneration station
WOLFOVA Z 25.01.78-CS-000505
(30.04.79) C02c-05

CRKA/ ★ D15 B/33 ★CS 7801-419
Purificn. of aq. effluent from epoxy resin prodn.
CRKAL J 07.03.78-CS-001419
A21 (30.04.79) C02c-05/02

ZACE/ ★ D15 B/33 ★CS 7801-793
Ferric coagulant for water treatment
ZACEK L 22.03.78-CS-001793
(30.04.79) C02b-01/18

SCHM/ ★ D15 59903B/33 ★DL -135-895
Absorption of pollutant oil layers from water surfaces - by application of polyamide, polyacrylonitrile or polypropylene fibres
SCHMIDT V 24.04.78-DL-204967
A97 H03 J01 (06.06.79) B01d-15 C02b-01/14 C02b-09/02 C02c-05/02

Pollutant layers of petroleum or vegetable oils on water surfaces are absorbed by spreading uniform layers of polymers in the form of fibrids, fibres or non-woven fabrics. on the surface. The polymers consist of polyamide, polypropylene or polyacrylonitrile, separately or as mixts. After use, they are regenerated by pressing out the absorbed oil.

Oil layers of varying thickness can be absorbed and the polymers are esp. good for viscous oils. No sec. contamination of the water by the additive, as with wood flour, occurs. The polymer can be re-used after pressing out the absorbed oil, which can be re-used, and can be stored indefinitely. 24.4.78 as 204967 (9pp195)

DUNG- ★ D15 59948B/33 ★DL -136-044
Liquid manure treatment - by closed loop concentration with air admixture in spiral turns upstream of nozzle
INST DUNGUNGS LEIPZ 01.02.78-DL-203504
(13.06.79) C02c-01/06 C02c-05/10

A microbiological treatment for liquid manure in animal farms uses a reactor tank in which the manure is circulated through a nozzle at a pressure of 1 MPa for 15-30 min.

The spiral inside the tank ahead of the nozzle receives compressed air at every turn. Fresh manure is admixed with the circulation as sludge, floats and treated manure are extracted centrally from the tank.

This results in an optimum utilisation of the oxygen in the air and in a reduced retention time. The efficiency of the process is high and the capital and operating costs are low. 1.2.78 as 203504 (8pp39)

RESE D15 22249U/16 = DS 2304-654

Inactivating pathogens in sewage - by electrochemical process

RESEARCH CORP (RESC) 01.03.72-US-230953

*J03 + P34 (09.08.79) *US3725-226 A61l-01*

Process for inactivation of pathogens in aq. media comprises immersion of at least one pair of electrodes (one of large surface area) in the medium and passage of alternating current, (0.1-10 Hz, 1-20 mA/cm^2), at potentials such that O_2 evolution is avoided at the anode but H_2 is r evolved at the cathode.

In the anodic phase, pathogens are deactivated, and in the cathodic phase they are removed from the electrode. The pref. voltage range is ±5V, esp. with a max. ±2V, with a triangular wave form. Pref. the cathode phase has a potential range of ±1V. 31.1.73 as 304654 (6pp047)

FARB D15 83197W/51 = DS 2426-672

Activated sludge treatment for effluents - by forced passage through injection nozzles with gas contg. oxygen

BAYER AG 01.06.74-DT-426672

*+ Q56 (09.08.79) *BE-829-657 C02c-01/06*

In a biological treatment for municipal and industrial waste activated sludge is suspended in the waste and divided into fine flocks. Finely dispersed air or oxygen is introduced and the suspension is coagulated to flocks of a size suitable for settling in a cyclone. The discharged from the cylindrical cyclonse is effected by a central funnel at the bottom as well as by a peripheral outlet.

The result is that the optimum flock re-coagulation can be readily achieved so that a better sepn. efficiency is obtd. 1.6.74 as 426672 (4pp39)

MGAF D15 52482X/28 = DS 2542-167

One-step particle-flotation from waste-waters - by distributing gas bubbles, flocculating and foaming under potential energy of gases introduced NL230676)

MAGYAR ASVANYLOLAI FOLDG 21.12.74-HU-MA2629

*+ P41 (09.08.79) *DT2542-167 C02b-01/20 C02c-01/40*

Dispersed and/or emulsified particles in impure water are treated by a single stage flotation process. Chemicals, additives and gas are mixed with the emulsion/dispersion and the resulting suspended flocculated material is removed.

The gas needed for flotation is supplied through risers occupying 20-40% of the vol. of the appts. The gas is supplied in an amt. such that <4 Nm^3 (1-3Nm^3) gas are supplied per 1m^3 of the water being treated. 22.9.75 as 542167 (4pp068)

ERGE- D15 33638A/19 = DS 2649-304

Sludge treated to produce energy-rich material - by aerobic process with heat retention followed by ventilation and drying

ERG ENERGIE-RECYCLI 29.10.76-DT-649304

*(09.08.79) *DT2649-304 C02c-03*

The aerobic microbiological treatment of sludge from sewage treatment plants includes heating and aeration for up to 20 days. The sludge is first brought by alkaline additives to a pH-value of over 7 and deposited in layers, separated from each underlying layer by an air gap. Hot air is introduced for drying and suppressing the growth of microbes. The resulting substance is suitable for combustion, carbonisation, activated carbon mfr. or safe dumping.

This turns sludge into a by-product with a useful application. 29.10.76 as 649304 (6pp39)

DENN/ D15 42353A/24 = DS 2654-431

Aerobic biological waste water purification - by using activator tank subdivided into contact tanks and recycle sludge regeneration tanks

DENNE A 01.12.76-DT-654431

*(09.08.79) *DT2654-431 C02c-01/06*

A clarification plant for the biological purification of sewage consists of an aeration basin and a reclarification basin. The former includes a re-aeration chamber for the recycled sludge, and a contact chamber for the aerated mixt. of sewage and re-aerated recycled sludge. One or more additional chambers are provided in the aeration basin for an optional use as extra contact or re-aeration chambers.

This permits a good adjustment to a fluctuating influx of sewage and uniform aeration times in the contact chamber. 1.12.76 as 654431 (3pp39)

CNSM D15 02580A/02 = DS 2728-585

Anaerobic sewage treatment - in combined tank with pumpless sludge and fluid circulation for gas collection and extraction (BE 27.12.77)

CENTRALE SUIKER MIJ NV 24.06.76-NL-006904

*(09.08.79) *DT2728-585 C02c-01/14*

An anaerobic sewage treatment system consists of a digestion tank, followed by a reclassification chamber in the upper part of a common tank. The reclarification chamber has a conical shape. The discharge openings for the sludge/water mixt. leaving the digestion tank lie at a higher level than the sludge dishcarge openings of the reclarification chamber. Gas deflector plates are fitted ahead of all openings leading from the digestion tank to the reclarification chamber.

This saves all mechanically driven or moving parts, thus reducing wear and power consumption. 24.6.77 as 728585 (7pp39)

FARB ★ D15 60036B/33 ★ DT 2804-376

Dry-spinning hydrophilic hollow fibres from hydrophobic polymer - esp. acrylonitrile polymer, using spinning dope having high solids and non-solvent concn.

BAYER AG 02.02.78-DT-804376

A88 F01 J01 (A14) (09.08.79) D01f-08/08

Hydrophilic, core-sheath structure-exhibiting hollow filaments or fibres, contg. porous bridge-interrupted channels in hollow fibre core, are dry-spun from hydrophobic filament-forming synthetic polymers, esp. acrylonitrile polymers.

The process comprises (i) admixing the spinning dope with $\geqslant 1$ substance which (a) mixes well with spinning solvent and water and (b) is a non-solvent for the polymer to be spun; (ii) spinning and (iii) washing out the non-solvent. The proportion of polymer solid and non-solvent make up $>$ 40wt.% of total spinning dope. The spinning dope is spun from triangular nozzles having a side-opening and laterally protruding flanges, at spinning velocities $<$300m/min. The dry-spun filaments are claimed.

Uses are ultrafiltration and dialysis, esp. haemodialysis. The filaments have porosity $\geqslant$20%, water-retention capacity $\geqslant$10% and Hg density $\leqslant$0.7 g/cc. 2.2.78 as 804376 (15pp200).

ZENI- ★ D15 60055B/33 ★ DT 2804-554

Settling basin travelling bridge - with floating sludge collector shield and extraction pump

ZENITH-MASCH GMBH 03.02.78-DT-804554

(09.08.79) C02c-01/38

A travelling bridge for extracting the floating sludge from settling basins in sewage treatment installations is equipped with a triangular floating sludge shield with a trap pocket at the apex. A container which can be lowered into the pocket holds a submersible pump which extracts the sludge and delivers it to a gutter surrounding the basin.

This system extracts the floating sludge in any possible quantities with a high efficiency. It requires a minimum of maintenance. 3.2.78 as 804554 (15pp39).

FARH ★ D15 60127B/33 ★ DT 2805-308

Water-softener using removable cation exchanger layer - replaceable after exhaustion by uncharged cation exchanger available as flat packet

HOECHST AG 08.02.78-DT-805308

(09.08.79) C02b-01/42

Water to be softened is passed through a cation exchanger layer which is removed after exhaustion and replaced by a layer of uncharged cation exchanger. An exchangeable insert for an ion exchanger-based water softener consists of 2 support layers enclosing an intermediate layer of powdery exchanger.

A water-softener is also claimed and consists of a container which is divided into 2 compartments by a partition which is formed, at least partly, as a water-permeable support layer. One compartment contains a closable inlet for the cation exchanger and a supply-conduit for hard water. The 2nd compartment contains a discharge outlet for soft water.

The water softener need not be regenerated with NaCl. 8.2.78 as 805308 (24pp200).

INTT ★ D15 60158B/33 ★DT 2903-548
Dual bacteria-contg. waste water e.g. sulphite liquor treatment - by aeration and flotation with nutrient to microorganism ratio control
DEUTSCHE ITT IND 06.02.78-US-875327
F09 (09.08.79) C02c-01/06

Bacteria-contg. waste water is aerated under bacterial growth-promoting conditions, until the waste water BOD is noticeably reduced, pref. by 90%, and ratio nutrient materials:microorganisms in waste water is > 1.

The aerated waste water is introduced into a flotation cell to separate the suspended solid particles, including waste water bacteria, by dissolved air flotation clarifying. The suspended solids particles and bacteria are returned to the aerating step, in sufficient quantity to maintain the nutrient : microorganism ratio. The residual waste water, having a reduced BOD level is removed.

Use of the process for treating sulphite waste liquor, having BOD > 400 g/l, is claimed. Dual aeration and flotation treatment allows nutrient/microorganism ratio to be increased and treatment plant size to be reduced. Nutrient:microorganism ratio > 1-4 greatly lowers BOD and toxicity. The process is immune to shock loading. 31.1.79 as 903548 (17pp200).

ALBE/ ★ D15 60166B/33 ★DT 2903-776
Filter for liq. with suspended fine particles - with filter elements inside movable piston for solids expulsion and back-flushing
ALBERTINI F 03.02.78-IT-082203
J01 (09.08.79) B01d-29/32

A device for the purificn. of water and other liquids from fine suspended particles up to a content of 10%, has the filter elements arranged in a piston which is in the top position for the filtering period. When the solid particles have accumulated, the outlet is cut off and the particles are expelled through a spring-loaded valve when the piston is moved down by a hydraulic actuator.

This device facilitates the collection and discharge of the solid suspension. It can be mfd. at a very competitive price. 1.2.79 as 903776 (11pp39).

TSZE ★ D15 60204B/33 ★DT 2904-816
Floating aerator structure - with tubular truncated pyramid suspended from floats
TATABANYAI SZENBANYAK 08.02.78-HU-TA1474
Q24 (09.08.79) B63b-35

A floating support structure, e.g. for surface aerators of water or for other floating structures, consists of a frame on which the aerator is mounted. This forms the narrow end of a truncated pyramid, formed by tubes along the side edges of the pyramid, and joined to nodal points of the base tubes. These nodal points are the attachments for the floats on which the whole unit is suspended. The floats are preferably hollow or opt. filled with a plastics foam.

This is a simple and lightweight construction. It is easy to mfr., to instal and to service and can be universally applied independent of the environmental conditions. 8.2.79 as 904816 (15pp39).

DORO D15 27616Y/16 =GB 1550-342
Screening and maceration of refuse in sewage - for concn. on concave grid and treatment in screw press
DORR OLIVER INC 16.12.75-GB-051405 (11.07.75-GB-029188)
*P41 (15.08.79) *FR2317-012 C02c-01/22*

Sewage screenings are treated by passing added water and the screening through a disintegrator or macerator and dewatering at least a portion of the slurry produced on a concave sieve bend screen.

Pref. the bars of the screen are spaced by 0.7 to 1.5mm, and have a face width of 2 to 4 mm. The subtended angle of the screen is pref. 40 to 60°. The macerator pref. reduces the screenings to 1/8 to 1/2 inch particles. The portion of the slurry not dewatered is pref. recycled to the macerator.

The dewatered slurry can be used for landfill or can be acceptably incinerated. 22.4.76 (5pp1376)

USAS D15 01401A/01 =GB 1550-559
Polymer membrane for reverse osmosis - prepd. by pptn. from monomer and nitrogen plasma, esp. for human waste purification in space flight
NAT AERO & SPACE ADMIN 09.06.76-US-694407
*A88 J01 (15.08.79) *NL7706-362 C02b-01/82 C08f-02/46 C08f-10*

Prepn. of a polymeric membrane having high urea-and salt-rejection characteristics comprises (a) generating a plasma of an unsatd. hydrocarbon monomer (I) and N_2 gas in an RF field having a power of 15-35 watts, and (b) forming a polymeric membrane by depositing a polymer of (I) from the plasma on a substrate, such that the nitrogen from the N_2 is incorporated within the polymer in chemically combined form.

Specifically, (I) is an alkene, alkyne or cyclic cpd., esp. ethylene. Prod. is useful as a reverse osmosis membrane for purifying aq. waste contg. salt and urea, e.g. for purificn. of water during prolonged manned space missions, for recycling water aboard submarines, etc. 8.6.77 as 023884 (6pp927)

DAVI- ★ D15 60237B/33 ★GB 2013-510
Evaporator for sea water desalination - has pressure reducing orifice with passage in which liq. is evaporated
MAXWELL DAVIDSON LT 28.02.79-GB-007080 (09.12.77-GB-051399)
J01 (15.08.79) B01d-01/22

Evaporator for evaporating a liq. using a condensable heating fluid has a pressure reducing orifice for receiving liq. to be evapd. The pressure reducing orifice includes an obturator through which a feed pipe for the liq. to be evaporated passes to terminate on one side of the obturator in a sparge pipe.

Liq. to be avaporated cannot flow into the heating fluid condensate and contaminate it. 28.2.79 as 007080 (5pp67)

KOMJ/ ★ D15 B/33 ★HU T016-803
Two-stage degassing appts. - for use with e.g. thermal waters or for removing methane or other hydrocarbons from water
KOMJATI S 19.08.76-HU-KO2807
(28.07.79) C02b-01/10

SUMQ ★ D15 60294B/33 ★J5 4082-845
Treatment of acidic waste liquor, e.g. steel pickling effluent - by adding alkali, oxidising agent and alkali to ppte. magnetic iron oxide and phosphoric ion as iron salt
SUMITOMO METAL IND KK (SUMI- YOKO-) 13.12.77-JA-150174
E31 M12 (02.07.79) C02c-05/02

An acidic waste liquor contg. a large amt. of phosphoric ion and ferrous salt, e. g. pickling effluent resulting from steel plant, etc. is treated by previously adding alkali to adjust its pH to a weakly acidic range; adding an oxidising agent, e. g. H_2O_2 etc. to selectively ppte. the phosphoric ion as iron salt; adding an oxidising agent, e. g. H_2O_2 etc. to the supernatant liquor to convert by oxidation a portion of ferrous ion to ferric ion; and subsequently adding alkali to ppte. the Fe ion in the form of magnetic iron oxide.

Advantages are that all of the ferrous ion is easily recovered as valuable magnetic iron oxide in closed recirculating system; the formed magnetic iron oxide exhibits settling rate than that of ferric hydroxide, and the apparent volume of a sludge is very small, and further heavy metal ions coexisting in the liquor in very small amt. are coprecipitated with the magnetic iron oxide. 13.12.77 as 150174 (4pp34)

NITT ★ D15 60355B/33 ★J5 4083-085
Acrylamide polymer prepn. for use as waste water coagulant - comprises polymerising acrylamide in water in the presence of a water-soluble tert. alcohol
NITTO CHEM IND KK (MITR) 14.12.77-JA-150107
A14 (A91) (02.07.79) C08f-02/10 C08f-20/56

Method comprises polymerising acrylamide, or a monomer mixt. comprising mainly acrylamide, in water, at a concn. of > 15 wt. % in a known manner and, if necessary, allowing the polymer to hydrolyse, followed by drying.

mprovement comprises conducting the polymerisation in he presence of 0.5-15 wt.% of a water-soluble tert. lcohol (e.g. t-butyl alcohol, 2-methyl-2-butanol, 2-nethyl-2-pentanol or pinacol) based on the acrylamide nonomer of the water-soluble monomer mixt.

The resulting coagulant shows satisfactory solubility in vater and also exhibit high dehydrating effect when added o a conc. sludge even if the mol. wt. thereof is increased. 14.12.77 as 150107 (8pp140)

HITF ★ D15 60424B/33 ★J5 4083-680

Treating sludge of high water content - by adding coagulant, comprising alkali extracted from slag from shaft furnaces, to sludge in mixer

HITACHI SHIPBLD ENGG KK 16.12.77-JA-152051

(03.07.79) B01d-21/ B01j-01*

A sludge with high water content is spread on the ground and reclaimed after treatment. To reduce the treatment cost, a coagulant composed of alkali extract from a granulated or powdered slag drained from shaft furnaces, is added to the sludge, by feeding it into a mixer.

Typically, a flocculant is fed from a feeder into a tank and the sludge is stirred in it. The sludge is then drained to a sludge concentrator and is left to precipitate, while the supernatant liq. is removed. The concentrated sludge is carried to the mixer through a conveyer pipe, into which the granulated slag is added as a coagulant during conveying. 16.12.77 as 152051 (3pp26)

KODA/ ★ D15 60427B/33 ★J5 4083-683

Device for fresh water prodn. from sea water using solar energy - comprises a corrugated cover on floating supports which collect the water dripping off the cover

KODA K 16.12.77-JA-152166

(03.07.79) B01d-03 C02b-01/06

The device comprises a corrugated cover supported above the surface of the sea; vertical supports with floats to support the cover while leaving a space for evaporation of the sea water, water receivers mounted on the upper ends of the supports, and anpped fibre cloth closely covering the surface of the sea below the cover. The receivers are linked to a water collector pipe.

The device is cheap and produces no pollution. 16.12.77 as 152166 (3pp26)

KURK ★ D15 60430B/33 ★J5 4083-688

Sea water desalination appts. - comprises primary and secondary reverse osmosis desalting units and a water pressure controlling device

KURITA WATER IND KK 16.12.77-JA-150614

(03.07.79) B01d-13

The appts. comprises primary and secondary reverse osmosis desalting units and a means for controlling the pressure of water to be fed to the secondary desalting unit from the primary. Two waters are produced, one having a low salt concn., the other a higher salt concn., using desalting units having small membrane areas.

The primary unit contains a reverse osmotic membrane structure having a higher desalting ratio and produces a primary desalted water when the sea water is pressurised. The secondary unit contains also a reverse osmotic membrane structure having a low desalting ratio, and produces a more desalted water and unconcentrated water from the primary water. 16.12.77 as 150614 (4pp26)

LIOY ★ D15 60457B/33 ★J5 4083-912

Cleaning compsn. for use in automatic dishwasher - comprises polyoxyalkylene based nonionic surfactant and di:methyl polysiloxane

LION FAT & OIL KK 19.12.77-JA-151679

A97 (A25 A26) (04.07.79) C11d-01/72 C11d-03/37 C11d-10/02

Compsn. comprises (a) nonionic surfactant of formula A((EO)n(PO)m)j (I) and (b) dimethylpolysiloxane in the ratio of (a)/(b) = 1/1-100/1.

In (I) EO, ethyleneoxide, PO is propyleneoxide, n = 0-50, m = 3-100, j=1-4; when j=1, A is 4-18C alkoxy or 6-15C alkylphenoxy; when j=2, A is $-O-(CH_2CH_2O)k-$ or $-O-(C(CH_3)HCH_2O)h-$ (k=10-25, h=10-70); when j=3, A is glyceloxyl; and when j=4, A is $=NCH_2CH_2N=$).

The compsn. leaves no water spots on the dishes. 19.12.77 as 151679 (5pp170)

KANK- ★ D15 60573B/33 ★J5 4084-353

Treating exhaust water exuded from city waste - by adding granulated slag and modified granulated slag, adjusting pH to below 4 and adding activated carbon

KANKYO GIJUTSU KAIH (AGEN) 19.12.77-JA-151778

(05.07.79) B01d-15 C02c-05/02 C04b-05

Method comprises (a) treating the exhaust water with granulated slag of about 100 mesh in particle size, (b) treating the exhaust water with a modified granulated slag formed by adding a monovalent metal carbonate and/or a divalent metal carbonate to the slag and firing it and (c) controlling the pH of the exhaust water to <4 using mineral acid, and then treating it with activated carbon for the removal of COD and colour of the exhaust water from cit waste.

In an example, an exhaust water of COD 1396 ppm, colour (absorbance) 2.340 (457 nm) and pH 8.68 was treated by the method, forming a treated water of COD 136 ppm, colour 0.042 (457 nm) and pH 7.92. 19.12.77 as 151778 (7pp50)

MITK ★ D15 60574B/33 ★J5 4084-355

Sepg. oil from waste water - by adding salt and alkali to form colloidal suspension and coagulating with poly:amine based cationic polymer and acrylic acid

MITSUI TOATSU CHEM INC 16.12.77-JA-150639

A91 J01 (05.07.79) C02c-05/02

Oil is sepd. from waste water comprises adding inorganic metal salts and alkali to form colloidal floating suspended matter in the waste water, and adding polyamine condensed system strong cationic high polymer coagulant and polyacrylic acid system anionic high polymer coagulant. Oil in waste water can be efficiently sepd. by simple operation and relatively inexpensive appts. without requiring strict pH control.

Inorganic metal salt is e.g. Fe salt or Al salt, which is used in an amt. of 0.05-3.0 times the total amt. of oil and suspended solid. Alkali is e.g. aq. ammonia or NaOH. 16.12.77 as 150639 (5pp50)

MITQ ★ D15 60674B/33 ★J5 4084-871

Sludge treatment with improved dewatering efficiency - by irradiating with ultrasonic beam, freezing and dewatering, avoiding sec. pollution etc.

MITSUBISHI ELECTRIC CORP 19.12.77-JA-153126

(06.07.79) B01d-43 B01j-01 C02c-03

Treatment of sludge including industrial waste water and dirty water and mud contg. organic components, which are difficult to freeze and remelt upon treatment is described. An ultrasonic beam is irradiated upon the sludge, then it is frozen, and dewatered. The sludge is previously fed into a sludge separator such as precipitating tank and other than fine particles and light organic components are sepd. from the sludge. The sludge contg. the fine particles and light components is treated in an ultrasonic irradiator tank.

Sec. pollutions is avoided as is use of agglomerating agents and flocculants. 19.12.77 as 153126 (4pp26)

HITG ★ D15 60675B/33 ★J5 4084-873

Preventing corrosion of copper pipe in desalination appts. - using anode bar comprising zinc or iron rod

BABCOCK-HITACHI KK 19.12.77-JA-151697

M14 (06.07.79) B01d-01 B01d-03 C02b-01/06

Means is claimed for preventing a corrosion of a heat conduction pipe of a heater immersed in brine flowing in desalination appts. comprising a heater and a condenser having gps. of heat conduction pipes.

Improvement comprises an anode bar of Zn or Fe disposed near the group of heat conduction pipes. The bar is held with a tube spacer for supporting the pipes. Since each pipe of Cu, Cu alloy or Ti, the bar acts as an anode in the brine against the copper or such pipe, resulting in consumption of the bar, instead of corrosion of the pipe. 19.12.77 as 151697 (3pp26)

HITG ★ D15 60676B/33 ★J5 4084-874

Prodn. of potable water from sea-water - using heater and condenser in single case, removing non-condensable gases which collect round condenser, to improve operation

BABCOCK-HITACHI KK 19.12.77-JA-151696

(06.07.79) B01d-03/02 C02b-01/06

On the discharge pipe of the cyclone is mounted freely rotating, double-walled bushing with helical screen whose lower wall is perforated and on to whose edge is fixed a continuous brush made from non-conducting material. On the inner wall of the cylindrical section of the cyclone's casing is mounted a replaceable cylindrical sleeve. The lid, through insulating e.e.g rubber gasket, is fixed to the casing which is connected to the positive terminal of d.c. source, while its negative terminal is connected to the discharge pipe.
Rogov V.P., Bul. 41/5.11.78 1.4.77 as 467920 (3pp135)

MOEN= ★ D15 61245B/33 ★SU -631-455
Settling tank for purifying natural waters - by removing iron content in flocculating tank and mixing intensively to cause precipitation
MOSC ENG CON INST 25.04.77-SU-479873
(05.11.78) B01d-21 C02b-01/20

Settling tank, for purification of natural waters to remove suspended and colloidal particles, is intended for relatively small installations, to remove iron from underground water, in which the iron is present in the bicarbonate and sulphate forms as well as in the form of iron-organic complexes. Includes a cellular settling zone with built-in flocculation chamber. The cleaning effectiveness is increased, as a result of taking the iron out by giving the flocculating chamber a truncated conical lower part, with the upper part cylindrical and provided with jet-directing screens and an attachment for sepg. the residues. The angle of the conical bottom is 20-25°, and the jet-directing screens are positioned at an angle of 40-50° to the axis of the settling tank.
Nikoladze G.I., Abdurasulov I., Babaev V.A., Bul. 41/5.11.78 25.4.77 as 479873 (3pp29)

UURB= ★ D15 61246B/33 ★SU -631-456
Decontamination of anthrax infected water reservoirs - includes growing Coelastrum microporum and Ankistrodesmus falcatus algal strains
UKR URBAN AFFAIRS 15.02.72-SU-749121
(05.11.78) C02c-01/02

Culture (I) is pref. used to treat water at >10°C by adding 1 l of culture per cu.m. of infected water in a biological treatment pond, and culture (II) is pref. used to treat water at <10°C by adding 2.5-2 l of culture per cu.m.

Both treatments pref. form part of a comprehensive treatment of water in a series of biological treatment ponds.
Kravets V.V., Zhiltsov V.M., Bul. 41/5.11.78 15.2.72 as 749121 (3pp314)

METG D15 04057Y/03 =US 4162-902
Phenol removal from effluent water from coal gasification - by solvent extraction and washing of the acid gas with raw phenol
METALLGESELLSCHAFT AG 24.06.75-DT-527983
*E14 H09 (31.07.79) *DT2527-983 +B01d-19 B01d-53/14*

Phenols and the volatile cpds. NH_3, CO_2 and H_2S are removed from waste water resulting from gasification or degasification of coal. Removal is by means of liq/liq. countercurrent extraction of the phenols with isopropylether to achieve a phenol laden solvent layer and a dephenolised aq. layer, by a organic layer. This is followed by 2 consecutive distillation steps for separate recovery of CO_2 and H_2S solvent and NH_3 with a low acid gas content.

The process comprises mixing the waste water with low b.pt. organic solvent, separating the mixt. into a solvent- and aq. layer; stripping the vapours of CO_2, H_2S and solvent from the aq. layer at super-atmos. pressure; stripping off the NH_3 from the aq. layer to leave a refined aq. prod. layer suitable for discharge.

The stripped vapours are then scrubbed under super-atmos. pressure with a portion of the cold refined prod. to remove any organic solvent. Part of the solvent is condensed and separated under superatmos. pressure, and the remaining acid gases still contg. NH_3 and solvent scrubbed with recirculated cooled raw phenol to remove NH_3 and the solvent. 30.9.77 as 838429 (+ 4.6.76 - US - 693040) (2pp931)

COJA- D15 30288Y/17 #US 4162-945
Multistage evaporator for desalination of seawater - in which throughput can be halved without alteration of press. and temp.
COJAFEX BV 13.10.75-NL-011990 (07.04.77-US-785715)
*J01 (31.07.79) *NL7511-990 B01d-01/22*

Sea water is desalinated in a multi-stage flash evaporator which has a slot-shaped downward extending channel leading from an upper sea water supply to a lower exhaust for unevaporated liquid. The channel has a series of alternate snail-shell-shaped convolute passages and bag-shaped buffer spaces. The convolute passages have a vapour exhaust at their centre. Centrifugal force separates vapour from the water in the convolute passages.

Each convolute space pref. has a curved diverging entry channel. Each buffer space pref. acts as syphon. Pref. the channel area increases towards the exhaust. 7.4.77 as 785715 (8pp1376)

FARB D15 08349A/05 =US 4162-970
Injector nozzles for injecting gases into liqs. - and their use in promoting mass transfer in gas liq. systems by producing intimate contact and mixing
BAYER AG 31.07.76-DT-634494
*J02 +P42 (D16) (31.07.79) *BE-857-291 C02c-01/12 +C02b-03/08*

Mass transfer in a gas-liquid system is intensififed by intimately contacting the gas with liquid in a mixing chamber, the liquid having a velocity of 5 to 30 m/secs and the ratio of gas throughput in mN^3 per hour to the liquid throughput in m^3/hr is 1:1 to 20:1. The liquid is injected as a propulsion jet from a nozzle. The outlet of the mixing chamber is 5 to 25 times to outlet throat of the nozzle.

Pref. the gas-liquid system is for gassing effluent, or is a fermentation system. The throat pref. diverges at 5 to 10° towards its outlet. The effeciency of mass transfer is increased. 25.7.77 as 818893 (5pp1376)

FARB D15 08350A/05 =US 4162-971
Injector nozzles with deflectors for gas-liquid mixing - producing intimate contact between the fluid components and thereby promoting mass transfer more efficiently
BAYER AG 31.07.76-DT-634496
*J02 +Q35 (D16) (31.07.79) *BE-857-292 C02b-03/08 C02c-01/12*

An injection for dispersing gas into a liq. includes a mixing chamber, a liq. inlet axial of the chamber, a gas inlet upstream of the chamber for surrounding the liq. stream, and a deflector in the chamber along the inlet axis to distribute the liq. across all the chamber.

The deflector is pref. flat, conical or parabolically concave facing the inlet. The liq. inlet is pref. a tube which converges conically and then diverges conically at its end. The deflector is pref. spaced from the inlet by 1 to 3 times the throat dia. of the inlet.

The appts. is partic. used for supplying biological waste water treatment plants with gases contg. oxygen. 25.7.77 as 818894 (10pp1376)

AFLI- ★ D15 61470B/33 ★US 4162-973
Water polisher removing solids and emulsified oils - has parallel connected filters individually backwashed when clogged
AFL IND INC 02.06.77-US-802814
(31.07.79) B01d-21/24 B01d-29/36 B01d-35/12

The water polisher is mounted in a self-contained structure which receives impure water in a surge tank. The water is removed from here and pumped to a set of typically five parallel filters connected to common inlet and outlet manifolds via individual valves. Filtered water is delivered to coalescers in a coalescing tank where polished water is sepd. from the oils by baffles.

Any individual filter may be backwashed by pumping polished water in reverse flow through the filter under the control of the valves. During normal operation one filter is kept in an inactive condition ready to be used when a filter is taken off-line for backwashing. 2.6.77 as 802814 (12pp295)

MONS/ ★ D15 61472B/33 ★US 4162-976

Sewage treatment and disposal system - with two/stage anaerobic decomposition and evaporation of effluent from surrounding eservoir

MONSON A A 30.05.78-US-910867

(31.07.79) B01d-01 B01d-21/10 C02c-01/16

A waste treatment system comprises a tank divided into upper and lower tanks, raw waste being admitted to the upper tank and passing over a baffle into the lower tank. The waste undergoes successive stages of anaerobic digestion in the two tanks.

The effluent is discharged from the lower tank into a surrounding space which forms a dispersion reservoir. The tank is mounted in an excavation in the ground which is lined with a liquid impervious sealant engaging the tank in sealing contact beneath the liquid discharge level. The dispersion reservoir is filled with particulate material. The liquid effluent is forced upwardly through the reservoir and is evaporated from it, the resulting vapours being dispersed to the atmosphere.

The waste treatment system is used where mains drainage is unavailable. The system avoids pollution of surrounding soil and waters. 30.5.78 as 910867 (9pp295)

GORS/ ★ D15 61498B/33 ★US 4163-035

Aerator for aquarium - with annular array of aeration nozzles leading from annular manifold which is formed from two parts

GORSKY E 16.01.78-US-869576

(31.07.79) B01f-03/04

The aerator is of cylindrical construction with a water inlet at its base and a water outlet at the top leading to a water tube. An annular air chamber is formed midway up the device and includes an annular array of discharge nozzles. These nozzles are formed by serrations on one of two telescopically engaging parts of the device.

Air is supplied to the manifold and enters the water as minute bubbles causing a net flow of water upwards through the aerator. Pref. the lower end of the device is covered by a grid to limit the size of particles entering.

The device aerates aquarium water and by making connections to the upper end of the device can be used to recycle the aerated aquarium water through a separate filter. The appts. may be dismantled to permit cleaning, including the air manifold. 16.1.78 as 869576 (5pp295)

See Also

D16 J7 9020472

D16: FERMENTATION INDUSTRY

ERBA ★ D16 59812B/33 ★BE-874-032

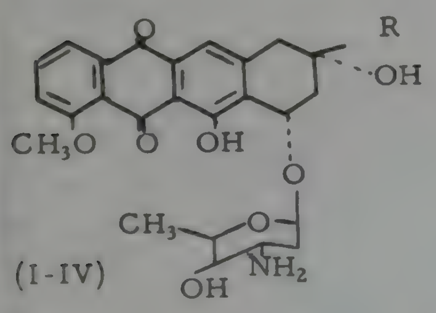
Anthracycline glycoside antitumour and antibacterial derivs. - prepd. by fermenting new Streptomyces mutant

FARMITALIA ERBA C 09.02.78-GB-005246

B03 (08.08.79) A61k C07d C12d

Prodn. of an antibiotic complex contg. anthracyclin glycosides comprises aerobic cultivation of a new mutant strain of Streptomyces peucetius var. caesius in an aq. medium contg. assimilable C and N sources and inorganic salts. The new strain is specifically B211 F;I. (Farmitalia collection; classified as Micromonospora peucetica sp. nova) made by treating the parent species with N-methyl-N'-nitrosoguanidine.

The glycosides of formulae (I) - (IV) and their nontoxic acid addition salts are new: (I) has R=$COCH_2OH$, i.e. 11-deoxy-adriamycin; (II) has R=$CHOH.CH_3$, i.e. 11-deoxy-13-dihydrodaunomycin; (III) has R=$COCH_3$, i.e. 11-deoxy-daunomycin; (IV) has R=ethyl, i.e. 11-deoxy-13-deoxodaunomycin. The corresp. aglycones are also new.


(I-IV)

(I)-(IV) have antitumour and antibacterial acitivity. (I) is active against P388 leukaemia in mice at 66 mg/kg and is toxic at 100mg/kg. At the tolerated dose it is more effective than daunorubicin. 8.2.79 as 874032(22pp1251).

TAIS ★ D16 59814B/33 ★BE-874-037

Amylase inhibitors TAI-A and TAI-B - used to control obesity and hyperglycaemia, obtd. by fermentation of Streptomyces calvus TM-521

TAISHO PHARMACEUT KK 10.02.78-JA-014408 (10.02.78-JA-014407)

B04 (08.08.79) A61k C12d

The inhibitors are prepd. by fermentation of Streptomyces calvus TM-521 aerobically and the inhibitors are isolated from the culture filtrate by adsorption on charcoal. TAI-H and TAI-B are eluted from the charcoal with aq. soln. of acetone, methanol or ethanol, and sepd. chromatographically on ion exchange resins, silica gel or cellulose derivs The inhibitors are amino-sugars having no methyl groups in the molecules.

Unit doses of 20-100mg given orally once or several times daily are preferred. 8.2.79 as 874037(24pp288).

ZEME/ ★ D16 B/33 ★CS 7701-020

Beta-glucan glucanohydrolase prepn. - by using Streptomyces spp. bacteria

ZEMEK J 16.02.77-CS-001020

B04 (30.04.79) C12d-13/10

LEDN/ ★ D16 B/33 ★CS 7708-014

Fermentation stopper

LEDNICKY D 02.12.77-CS-008014

(30.04.79) C12l-09

ZEME/ ★ D16 B/33 ★CS 7801-452

Beta-Glucosidase enzyme prepn.

ZEMEK J 16.02.78-CS-001452

(30.04.79) C12d-13/10

WERN/ ★ D16 59909B/33 ★DL-135-911

Antigen for malignant tumour diagnosis - obtd. from tumour tissue by neutral salt extraction, protein and molecular sieve techniques

WERNER H 16.09.76-DL-194813

B04 (06.06.79) C07g-07 C07g-17

Tumour antigen with general, non-histospecific relation to malignity is produced from native, homogenised tumour tissue by neutral salt extraction, protein pptn. and molecular sieve techniques.

In a pref. procedure, the homogenised tumour tissue is subjected to hypertonic neutral salt extraction. The extract is ultracentrifuged, then concentrated and the antigen pptd. with satd. ammonium sulphate soln. The ppte. is redissolved and further purified by gel filtration, a product in the molecular weight range 30000-200000 being collected. The antigen can be isolated from the resulting protein mixture by diafiltration, a product of molecular wt. 40000-70000 being collected.

Used for immunological diagnosis of malignant tumours pref. using lymphocytes from the patient under examination. 16.9.76 as 194813 (8pp280)

BORK/ ★ D16 59914B/33 ★DL-135-916

Wort clarification in beer breweries - by flotation using carbon di:oxide as carrier gas

BORKMANN K 21.04.78-DL-204942

(06.06.79) C12c-09/06

Wort can be clarified in beer breweries by a flotation process. The flotation is effected by an admixture of carbon dioxide, pref. recovered from the fermentation processes. After a certain retention time of the carbon dioxide at a pressure of 2-4 bar, the mixt. is expanded in the flotation cell and the suspended slimes are removed.

The small vols. and low pressures of the gas result in little froth formation combined with a high sepn. efficiency Very small gas bubbles are produced to give a max. of phase interface area. 21.4.78 as 204942 (6pp39)

PORS/ ★ D16 59960B/33 ★DL-136-140

Peroxidase-labelled protein purificn. - by combination of affinity chromatography and gel filtration

PORSTMANN T 28.04.78-DL-205079

B04 C03 (20.06.79) C07g-07 C07g-11

In the purificn. of peroxidase-labelled proteins, free peroxidase and all unlabelled antibody or antigen are removed in a single step by combination of affinity chromatography and gel filtration. The affinity chromatography sepn. is carried out with Concanavalin A/"Sepharose" (RTM) while the gel filtration is pref. effected with a carbohydrate and/or acrylamide gel.

Peroxidase-labelled antibodies are used in the enzyme-linked immunoassay of immunogenic substances (proteins, carbohydrates, nucleic acids, drugs) in medicine, sports medicine, veterinary medicine, biochemistry, immunobiology, zoology, food chemistry, pharmacology and toxicology.

The process enables peroxidase-labelled prods. with high specific activity to be obtd. in a single step. 28.4.78 as 205079 (15pp280)

BORM/ ★ D16 59968B/33 ★DL-136-152

Preventing oxidn. of boiling, foaming wort infusion - by blowing jets of carbon dioxide through flat nozzles upon surface of broth

BORKMANN K 28.04.78-DL-205088

(20.06.79) C12c-09/02

Undesirable oxidn. during the boiling of wort is avoided by blowing CO_2 upon the frothing surface of the infusion, through nozzles. The CO_2 is available as a by-prod. of beer brewing. Discolouration of the resulting broth by formationof 5-hydroxymethylfurfurol is minimised.

The CO_2 is supplied under up to 0.1 bar super-pressure. The nozzles are flat-jet nozzles. Formation of froth upon the surface of the boiling mass is appreciably reduced. 28.4.78 as 205088 (5pp267)

DEAK ★ D16 59997B/33 ★DL-136-268

Affinity chromatography isolation of sugar specific enzymes - using hydroxyalkyl methacrylate macroporous copolymer contg. glycoside-bound saccharide

AKAD WISSENSCHAFT DDR 04.05.78-DL-205175

A97 B04 C03 (A14) (27.06.79) C07g-07 C08l-33/04

In the isolation of enzymes using saccharide-contg. carriers, a soln. contg. an enzyme or enzyme mixt. is contacted with a macroporous hydrophilic copolymer of hydroxyalkyl methacrylate (alkyl = 2-6C) contg. O-glucosidically bound saccharide, and the enzyme is released from the resulting complex by elution with salt solns., solvent mixts. or buffers.

Used in isolation of enzymes and proteins which form substrate complexes with saccharides. New adsorbents for affinity chromatography have improved hydrophilic properties. The macroporous internal structures gives a large pore dia. and high specific surface. The matrix has improved mechanical, thermal and chemical stability, and is not attacked by micro-organisms. The vol. of the adsorbent remains constant over a wide range of pH and ionic strength values. 4.5.78 as 205175 (11pp280)

DORI/ ★ D16 60005B/33 ★DL-136-287

Centrifugal pump for fermentation emulsion contg. gas - has baffle ring between back of impeller and gas release openings in casing

DORING W 02.03.77-DL-197627

Q56 (27.06.79) F04d-29/24

The pump has centrifugal blades projecting axially from a backplate. A connection within the casing from the space at the back of the impeller leads into a gas release chamber with a gas outlet. There is a baffle ring behind the impeller backplate. It is joined at its inner end to the impeller hub.

The outer radius of the ring is greater than the radial distance of the gas release connection but less than the inner radius of the ring of liquid which forms behind the impeller. The ring is spaced axially between the impeller backplate and the back wall of the casing. 2.3.77 as 197627 Add. to 101947 (13pp1013)

ASTR D16 25479F/00 =DS 1617-279

Aspergillopeptidase ARL 1 new enzyme prepn. - with anti-blood clotting properties

ASTRA AB 27.08.65-SW-011191

*B04 (09.08.79) *NL6612-046 +A61k-37/54 C12d-13/10*

Prepns. (I) contg. Aspergillo peptidase ARL 1 are prepd. by first treating an opt. purified soln. of Asp. peptidases, obtd. by culturing A. oryzae with an ion-exchange resin at pH 4-6. The adsorbed enzyme is eluted with buffer at pH 6-8 and the enzyme mixt. obtd. is subjected to further purificn. by gelfiltration, fractioned ppts., adsorption, ion-exchange chromatography, electrophoresis, dialysis or combinations, using conditions to impart the properties of Asp. peptidase ARL 1.

The prepn. obtd. gives an injectable soln. which can be dosed in single doses contg. 0.1-10 mg, pref. 1-4 mg Asp. ARL1. (I) inhibit bloodplatelet aggregation and may be used in the treatment and/or prevention of thrombosis and embolies of all types. Agglomeration is clearly reduced after the 1st injection with (I) and further doses allow agglomeration to be kept at a low level for a long time without fluctuations.

16 Requirements are given in the test for ARL 1 concerned with e.g. protein composition, solubility, stability, spectrophotometry, proteolytic activity, chromatographic behaviour etc. Pref. ion-exchange resins used are hydroxylapatite, organic polymers with carboxylic acid gps. or dietnylaminoethyl cellulose. 19.8.66 as 617279 (9pp279)

GBFE- D16 45262S/27 =DS 2061-371

Glucose isomerase enzyme complex immobilised - with anion exchange cellulose

GB FERMENTATION IND (BAXT) 22.12.69-US-887245

*A11 B03 (D17) (09.08.79) *DT2061-371 C07g-07/02 +C12d-13/02*

Immobilised glucose isomerase enzyme (I) is prepd. by reacting dextranase-contg. glucose isomerase from Streptomyces phaeochromogenes with DEAE-/TEAE or ECTEOLA-cellulose at pH 7-10 in aq. buffer.

(I) is used in the conversion of D-glucose into D-fructose such as in the mfe. of maizesyrup prods. (I) has excellent heat-resistance and can be used repeatedly. The conversion of glucose to fructose is increased by ca. 12-15% compared to non-bound enzyme.

In an example S. phaeochromogenes is cultured in a medium contg. D-xylose, K_2HPO_4, $MgSO_4$ $7H_2O$, $CoCl_2$ $6H_2O$, peptone, wheatbran and cornsteep liquor, at 30°C Working up gives a clear liq. to which DEAE-cellulose is added and mixes to give an active glucose isomerase enzyme complex. 14.12.70 as 061371 (7pp279)

OSAU D16 70399S/44 =DS 2119-688

Viral vaccine by quail embryo culture

OSAKA MICROBI UNIV 22.04.70-JA-035274

*B04 C03 (09.08.79) *BE-766-093 C12k-07*

Process for the prepn. of vaccine comprises attenuated propagation of living viruses in the presence of freshly hatched quail eggs or embryofibroblast. In particular, vaccines, for the prevention of mumps, influenza A or B, cowpox, Newcastle illness, Japanese encaphalitis, dengue fever, rabies, Marek's disease, distemper or measles are obtd. 22.4.71 as 119688 (8pp047)

BOEF D16 24254U/18 =DS 2145-345

(co) polyaralkene gel carrier - having increased adhesion for the gel

BOEHRINGER MANNHEIM GMBH 10.09.71-DT-145345

*A89 R16 (A13) (09.08.79) *DT2145-345 C12k-01 G01n-27/26 G01n-33/16*

Gel layer carriers, pref. of styrene homo- or copolymers, have the surface adjacent to the gel layer occupied by aromatic nuclei contg. sulphonic acid gps.

The gel layer strongly adheres to the carrier. The gel layers can be used for chemical and biological investigations. 10.9.71 as 145345 (3pp260)

BUHL D16 31567U/22 =DS 2162-167

Screw conveyor lifting gear - for germinating and malting kiln

BUHLER-MIAG GMBH (MIAG) 15.12.71-DT-162167
*(09.08.79) *BE-792-622 C12c-01/08*

A plant for the germination and kiln drying of malt in breweries consists of several annular maltfloors which are arranged on top of each other around a central shaft. A vertical side shaft with flap valves actuated from the outside is used to charge and discharge the malt. A worm conveyor for changing the malt charge is arranged in each floor chamber. This conveyor is suspended from lead screws so that its posn. can be adjusted between the charging and discharging chutes.

This plant uses a minium of appts. and requires little space. 15. 12. 71 as 162167 (6pp39)

NEST D16 68390T/43 =DS 2215-160

Water insoluble enzymatic prepn - consisting of an enzyme covalently attached to oxidised polysaccharide

SOC PROD NESTLE SA 31.03.71-CH-004687
*B04 (09.08.79) *DT2215-160 C07g-07/02*

Water-insoluble bonded enzyme-carrier system, in which the ε-NH_2 of lysine units in the enzyme are condensed with CHO gps. or the carrier, is new. The carrier comprises an insoluble polysaccharide (pref. cellulose) which has been mildly oxidised to convert CH_2OH gps. to CHO.

Pref. enzymes are papain and trypsin. Prepn. of these complexes comprises condensn. of oxidised polysaccharide with enzyme in the presence of a buffer agent of pH 7-8, followed by sepn. of the insoluble prod., which is opt. freeze dried. 28. 3. 72 as 215160 (3pp047)

BUHL D16 38405V/21 =DS 2247-619

Electrical drive for malt kiln grids - suspended with two freedoms of motion to compensate distortion

BUHLER-MIAG GMBH 28.09.72-DT-247619
*+Q64 Q76 (09.08.79) *DT2247-619 C12c-01/12*

The maltfloor of a malt kiln in breweries is driven by the pinion of an electric motor which engages an internal gear rim on the floor periphery. Each drive unit is supported in in a carrier which can have a variable posn. horizontally and vertically. Collars on a guide roller and a plain roller follow the line of the lower flange of the toothed rack girder.

This enables the drive units to follow any distortion of the maltfloor periphery and maintain a reliable gear contact. 28. 9. 72 as 247619 (5pp39)

INSP D16 39098U/28 =DS 2262-427

Isolation of immunostimulating agents - from animal spleen cells etc

INST PASTEUR 24.12.71-FR-046520
*B07 (09.08.79) *NL7217-588 A61k-35/74*

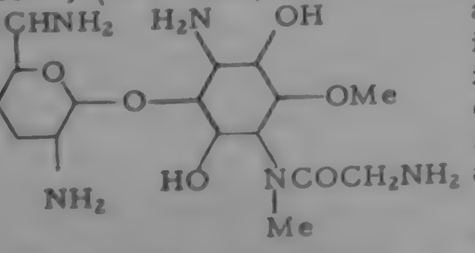
Non-specific immunostimulants are obtd. from animal spleen cells, Ehrlich ascites cells or bacteria. Prepn. of these immunostimulants comprises dispersion of the cells in a mixt. of $CHCl_3$ and MeOH, (1:1 by vol), removal of insoluble matter, and evapn. at reduced pressure. The residue is dissolved in $CHCl_3$; the soln. is filtered and opt treated with a physiologically compatible carrier soln. ;and all $CHCl_3$ is then vaporised by treatment with an inert gas. 20. 12. 72 as 262427 (11pp047)

KYOW D16 09167W/06 =DS 2435-160

Fortimycin A as antibacterial agent - with broad spectrum of activity, prepd from Micronospora olivoasterospora

KYOWA HAKKO KOGYO (ABBO) 23.07.73-JA-080866
*B03 +P34 (09.08.79) *BE-817-954 A61k-31/35 A61l-13 C07d-309/14 C12d-09/22*

Fortimycin A of formula (I) is a new antibiotic with $[a]_D^{25}$ =+26 °, (0. 2 mole/dm^3, in water), and characteristics u. v. and i. r. spectra. (I) is isolated from culture media in which Micromonospora olivoasterospora, (ATCC 21819, 31009 or 31010), are propagated.


(I)

The prod. and its non-toxic salts have a wide range of antibiotic activity, esp. against resistant strains (and partic. against Staphylococcus aureus and Escherichia coli). 22. 7. 74 as 435160 (12pp047)

EURT D16 24637W/15 =DS 2445-636

Decomposing domestic refuse - by mixing soln. of refuse at aerobic decomposition temp. and sepg. liq. from solids

EUROC ADMINISTRATION AB (EURO-) 01.10.73-SW-013306
*+P41 Q42 (09.08.79) *DT2445-636 C12d*

Heterogenous, at least partly biodegradable, solid and liq. waste is treated by aerobic, wet-rotting. The waste is mixed with water to form a pourable suspension with a solid content of 1-15 wt. % (dry wt.) and then homogenised by rotation.

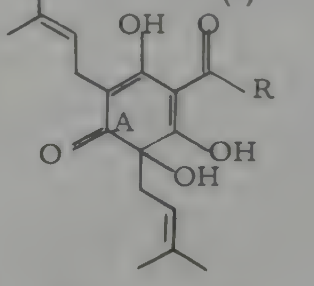
The suspension is treated batchwise:-the suspension is heated to 50-70°C, contacted with sufficient oxygen-rich gas to meet the oxygen need of microorganisms and then treated with aerobic thermophilic microorganisms at 50-70°C. At the end of the wet-rotting process the non-degraded residue is separated. 25. 9. 74 as 445636 (7pp)

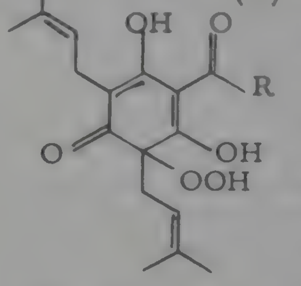
GIVA D16 22639X/13 =DS 2539-014

Humulones e.g. cohumulone from oxidation of desoxy cpds - then reduction of novel peroxy cpds. formed

GIVAUDAN L & CIE SA 09.09.74-CH-012156
*E15 (09.08.79) *BE-833-213 C07c-49/60*

Humulones of formula (I) (where R is 1-6C alkyl) are prepd. by oxidising the corresp. deoxy cpd. (OH gp. and double bond at posn. A) with elementary oxygen. The oxidn. is (a) carried out in presence of a hydrogen activated, palladium-active carbon catalyst to obtain a hydroperoxide of formula (II) which is then reduced e. g. with dimethyl sulphide, sodium iodide or a trialkylphosphite or (b) the oxidation and reduction are carried out simultaneously in presence of a trialkylphosphite, a base and an aprotic polar solvent at 0° to -50°C.

(I)


(II)


Hydroperoxides (II) are new cpds. Humulones (I) are intermediates for bitter components for the brewing of beer. 2. 9. 75 as 539014 (5pp068)

NAGE/ D16 67020Y/38 =DS 2603-122

Drug-potentiating e.g. ampicillin-potentiating glycoprotein prodn. - by incubating native protein with yeast enzymes in presence of monosaccharides

NAGEL H H 28.01.76-DT-603122
*B04 (09.08.79) *DT2603-122 A61k-37/02 C12d-13/06 +C07g-07*

Prepn. of stabilised glycoproteins comprises mixing an aq. yeast suspension with monosaccharide and natural protein.; the glycoprotein produced is sepd. (esp. by dialysis) stabilised by addn. of inorganic salts and/or saccharide-protein mixt., and freeze dried.

Pref. monosaccharides are lactose and glucose; prefd. proteins are casein and gelatine. The prods. are used (in proportions or 10^{-4}-1 wt. %) to promote the effect of pharmaceuticals in medicinal compsns. 28. 1. 76 as 603122 (8pp047)

PENT- D16 90110Y/51 =DS 2734-427

Isolation of enzymes from snake venom - by adsorption on and selective elution from a water-insoluble, heparin-carrier complex

PENTAPHARM AG 17.08.76-CH-010493
*B04 +R16 (09.08.79) *BE-857-876 A61k-37/54 C07g-07/02*

Process for isolation of proteolytic enzymes with thrombinic activity from snake venom or venom fractions, comprises treatment of aq. venom (or fractions) with an insolubilised heparin bonded to an inert, insoluble carrier, in the presence of buffer agents and/or electrolytes (esp. NaCl), at pH 4-10. The enzyme is linked to the heparin and other materials are easily removed. The enzyme is then cleaved from the heparin and purified by chromatography.

Pref. carriers are agaroses, ε-aminocaproylagarose and cyanogenbromide-agarose. The prods. are used for blood coagulation, esp. to prevent hemorrhage. 29. 7. 77 as 734427 (9pp047)

TATL D16 40388A/23 =DS 2803-245
Exo:cellular polysaccharide prepd. by fermentation - using specified Pseudomonas microorganism; stabilisers, emulsifiers, thickeners in food, paper and textile industry
TATE & LYLE LTD 25.01.77-GB-002992
*F09 G02 (D13 D17) (09.08.79) *BE-863-289 C08l-05 C12d-13/04*

Exocelluloar polysaccharides are produced by cultivating Pseudomonas sp. NCIB 11264. The strain is pref. grown on a Gray's et al. medium supplemented by glucose or saccharose at 25-35°C at a pH >6, esp. 6.5-8.

The polysaccharides contain recurring units (a) 7 D-glucose units comprising 1 unit of 6-substd. glucose, 2 units of 4-substd. glucose, 2 units of 3-substd. glucose and 2 units of 4,6-disubstd. glucose, (b) a 1-D-galacto unit of 3-substd. galactose, (c) an acetate unit and (d) a pyruvate unit. The units have a 4,6-disubstd. glucose bran-ching point and a side chain terminated by a 4,6-o-(1-carboxyethylidene)-D-glucose unit. The polysaccharide has has an OR$[a]_{22}$ of -15° (c-0.68H_2O).

The polysaccharides have pseudoplastic flow and shear dilution properties similar to those of xanthenes and alginates and can be used to replace these products in all fields of application. 25.1.78 as 803245 (4pp260)

FARH ★ D16 60110B/33 ★DT 2805-197
Hygrostatin prepn. from Streptomyces rubrohygrostaticus - by fermentation to give the fungicidal antibiotic
HOECHST AG 08.02.78-DT-805197
B04 C03 (09.08.79) C12d-09/16

The prepn. of hygrostatin, (I), comprises fermenting Streptomyces rubrohygrostaticus (nov. sp.) or one of its variants or mutants, and then sepg. (I).

(I) is a fungicidal antibiotic, effective e.g. against Candida albicaus, Fusarium nivate, Alternaria solani and Piricularia orizae (in all four cases 1 mcg (I) in 50 μl soln produced a hole of dia. 7mm in vitro in a culture of the fungi). LD_{50} = 20mg/kg i.p and 500-750 mg/kg p.o. in mice. 8.2.78 as 805197 (13pp1401).

TSUB ★ D16 60177B/33 ★DT 2904-225
Beta:galactosidase powder cultured from penicillium multicolour - is stable at acid pH and high temps. (NL 8.8.79)
KUMIAI CHEM IND KK 06.02.78-JA-012102
(09.08.79) A61k-37/54 C12d-13/10

A novel powdered β-galactosidase (I), isolated from a culture medium of Penicillium multicolor, has the following properties: (a) a relative (I)- activity of 224% for O-nitrophenyl- β-D-galactopyranoside and 186% for p-nitrophenyl-β-D-galactopyranoside, assuming a relative (I)-activity of 100% for lactose; (b) M. wt. 120,000 (determined by gelfiltration); (c) activity at pH 2.7-7, optimal at pH 4.5; (d) (I)-activity lost by heating to 75°C at pH6 for 15 min : optimal temp. 55°C; (e) (I) - activity stable at pH 2.5-8 after standing for 24 hrs. at 4°C; (f) (I) - activity 100% stable at 60°C and lowered to 60% at 65°C, 25% at 70°C and 0% at 75°C after 15 minutes standing at pH 6; (g) (I) - activity 20% inhibited in the presence of Hg^{2+} ions, but not significantly inhibited by the presence of Fe^{2+} and Cu^{2+} ions at metal ion concns. of 10^{-3} M; and (h) isoelectric point of 5.37 (measured by electrophoresis).

(I) is active in the degredation or hydrolysis of lactose to glucose and galactose, and is stable at the acid pH values found in the digestive organs of humans, and at normal and elevated temps. (I) can be obtd. in high yields on a commercial scale. (I) can be used to treat dyspeptic disorders in children who are not capable of metabolising lactose, and can also be used in the treatment of various milk prods. 5.2.79 as 904225 (18pp1401).

PROM- ★ D16 60278B/33 ★GB 2013-885
Appts. for inoculating or transferring microbiological cultures - comprises a needle for effecting the transfer and flow of protective gas around the needle
PROMIH SA 02.02.78-CH-001129
R16 (15.08.79) C12k-01/06 G01n-01/10

Appts. comprises a needle disposed on a base provided with nozzles for distributing a gaseous environment around the needle. Nozzles are arranged to expel gas longitudinally and laterally of the needle so as to form a protective gaseous environment around a transferred portion of a culture medium.

The sample is maintained in a protective gaseous environment during the entire transfer procedure from one receptacle to another. The use of fluid - tight operating chambers is eliminated. 1.2.79 as 003491 (5pp1044)

GODO- ★ D16 B/33 ★HU T016-834
Fermenting vat with mixer, water distributor and air blower - partic. for use with white wines
GODOLLOI AGRARTUDOM 24.01.78-HU-GO1389
(28.07.79) C12b-01/10 C12g-01/02

KANF ★ D16 60544B/33 ★J5 4084-086
Fermentative prodn. of hydantoinase standard sample - by culturing microorganisms in medium contg. pyrimidine-nucleic acid base and accumulating prod. in fungi body
KANEGAFUCHI CHEM KK 09.12.77-JA-148556
B04 (04.07.79) C12d-13/10

Prodn. of hydantoinase standard sample comprises culturing microorganism in culture medium contg. pyrimidine series nucleic acid base or its deriv. (0.05-0.5%) to accumulate hydantoinase in fungi body. Pref. nucleic acid base (deriv.) is selected from uracil, cytosine, thymine, dihydrouracil, dihydrothymine, uridine, cytidine, uridine, monophosphate or cytidine monophosphate.

Pref. microorganism is selected from Aerobacter, Agrobacterium, Brevibacterium, Corynebacterium, Microbacterium, Brevibacterium, Corynebacterium, Microbacterium, Micrococcus, Pseudomonas, Microbacterium, Nocardia or Streptomyces gunus. Pref. hydantoinase standard sample is fungi body, fungi body-treated substance, fungi body extract, crude enzyme, purified enzyme or fixe substances.

D-N-Carbamoylamino acids may be converted into respective corresp. optical-active D-amino acids and these are important as intermediates for pharmaceuticals and those enzyme standard samples are very useful in industrial practice. 9.12.77 as 148556 (10pp69)

TOKU ★ D16 60546B/33 ★J5 4084-088
Reaction using fixed enzyme - comprising mycelium or enzyme fixed on water insol. polyion complex of cationic and anionic polymers
TOKUYAMA SODA KK 16.12.77-JA-150592
A96 B04 (04.07.79) C07g-07/02

A method for reaction of fixed enzyme (I), comprises using, as (I), enzyme (II) or mycelium (III) fixed on water-insoluble polyion complex (IV) composed of polycation polymer (V) and polyanion polymer (VI). The fact that (II) or (III) is fixed on (IV) is new.

(II) or (III) is fixed by (1) addn. of polymer ion, having reactive charge to aq. soln. contg. (II) or (II), and (V) or (VI), or (2) contacting (II) or (III) with (IV) in aq. soln. One of (V) and (VI) is pref. water-soluble. As (III), culture medium mycelium, grinded mycelium, crude enzyme-extract, etc. of mycelium contg. glucose isomerase or cis-epoxy succinic acid hydrolase, and as (II) invertase are pref. used .

Examples of (V) and (VI) are strong acidic water-soluble polyanion, such as polystyrene sulphonic acid, polyvinyl sulphate, etc. weak acidic water-soluble polyanion, such as polyacrylic acid, polyglutamic acid, etc. strong basic ammonium salt, etc. weak basic water-soluble polycation such as polyethylene imine, etc. 16.12.77 as 150592 (7pp42)

OKIM/ ★ D16 60547B/33 ★J5 4084-089
Fixation of enzymes - by gelation of a soln. contg. coagulative devil's tongue mannan, enzyme and other additives
OKIMASU T 19.12.77-JA-151669
B04 (04.07.79) C07g-07/02

A method for fixation of enzyme (I) comprises gelation of a solution contg. coagulative devil's tongue mannan (II), enzyme and, if necessary, one or more (I)-protecting agent, stabiliser, coagulant, neutralizing agent and peptising agent (III).

(II) is e.g. prepared by (1) (a) making gel of devil's tongue mannan solution by addition of alkali and allowing to stand for a proper period of time, (b) grinding the gel obtained, (c) washing it with water, (d) peptising it with addition of (III) at low temp., (e) neutralising it and (f) dialysing and/or filtering the solution.

The gelation of the solution is more promoted at lower temp. and therefore lowering of activity of (I) by heat is not caused during the treatment. Procedures are simple. 19.12.77 as 151669 (4pp42)

TOXN ★ D16 60548B/33 ★J5 4084-090

Solvent mixt. for activating beta-galactosidase - contg. water miscible alcohol(s) and ketone(s)

TOYO BREWING KK 04.11.77-JA-132714

B04 R16 (04.07.79) C07g-07/02 G01n-31/14

Solvent mixture (I) which activates β-galactosidase (II), contains $\geqslant$ 1 water miscible alcohol (III) and ketone (IV).

By contacting (II) with (I), activity of (II) increases 2-3 times. (I) is effectively used for enzyme immunoassay. Examples of (III) and (IV) are 1-3C alcohol, e.g. (m)ethanol, propanol, propylene glycol, glycerin, and acetone and methyl ethyl ketone. The contents of (III) and (IV) in (I) is 5-30%. Cpds. (V) having thiol gp. e.g. glutathion, mercaptoethane, etc. and buffer of pH 6.8 are pref. added in (I). The content of (V) in (I) is 1-30 mM, e.g. (10-25 mM). (I) can also be applied to (II) fixed on cellulose, ethyl cellulose, styrene, ion exchanger, etc. As the compounds used for enzyme immunoassay, antigen, antibody, hapten, such as insulin, albumin, immuno globulin, catechol amine, etc. are used. 4.11.77 as 132714 (10pp42)

HOKP ★ D16 60549B/33 ★J5 4084-091

Prodn. of cellulase from Streptomyces strain - by culturing in a medium contg. water-soluble cellulose deriv., e.g. CMC

HOKUETSU PAPER MILL KK 12.12.77-JA-149004

A97 B04 (A11) (04.07.79) C12d-13/10

Cellulase (I) is produced by culturing Streptomyces cellulo-chryceos Fujii (II). (II) is separated from piled rice straw. (II) produces (1) extracellularly and therefore (I) can be collected from culture filtrate easily by known methods. (II) is cultured in medium contg. water-soluble cellulose deriv. such as carboxymethyl cellulose, or powdery pulp, avicel, paper, etc. as substrate. (I) accumulated in culture medium is collected by salting out with addition of ammonium sulphate or by pptn. with addition of alcohol or acetone. 12.12.77 as 149004 (6pp42)

IDEK ★ D16 60550B/33 ★J5 4084-093

Glutathione-contg. liquor prodn. - by adding liquor contg. (hydroxy) carboxylic acid to yeast fungi and extracting resultant mixt.

IDEMITSU INDUSTRIES KK 15.12.77-JA-149958

B05 E16 (04.07.79) C12d-13/06

Process comprises adding liquor contg. $\geqslant$1 aliphatic carboxylic acid or aliphatic hydroxycarboxylic acid to yeast fungi body and extracting resultant mixt. at $<$ 40°C. Pref. acid used is formic, acetic, propionic, butyric, valeric, oxalic, glycollic, citric, lactic, malonic, tartaric and/or tatronic acid.

Pref. acid concn. of mixt. after addn. of liq. to yeast fungi body is 2wt.% water content $>$ 5 wt.% and pH is $<$2. When the (hydroxy)carboxylic acid used is solid at ordinary temp., it is used as mixt. with water and/or organic solvent. The organic solvent is pref. a hydrophilic solvent such as methanol, ethanol or acetone. The yeast is e.g. baker's yeast. 15.12.77 as 149958 (3pp69)

SHIO ★ D16 60551B/33 ★J5 4084-095

Antibiotic ribostamycin prodn. - by culturing Bacillus circulans B-15M-451

SHIONOGI KK 15.12.77-JA-151421

B04 (04.07.79) C12d-09/20

Process comprises (a) culturing Bacillus circulans B-15M-451; and (b) removing ribostamycin from the obtd. culture mixt. Ribostamycin is aminoglycosido series of antibiotics which is produced by Streptomyces ribosidificus Bacillus circulans B-15M-451 is deposited as FERM P-4320. 15.12.77 as 151421 (4pp69)

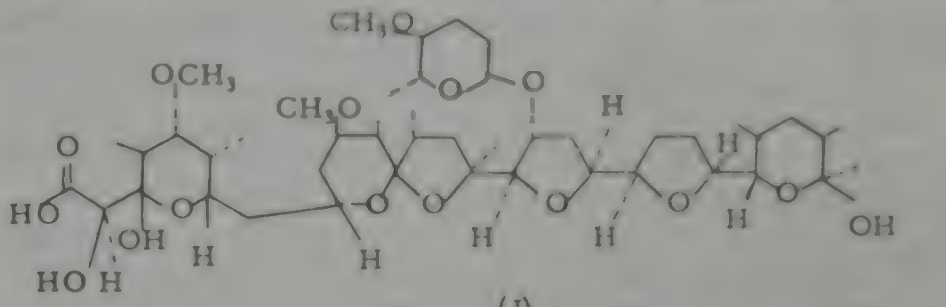
KAKE ★ D16 60613B/33 ★J5 4084-576

Anticoccidial antibiotic 6016 - prepd. by culturing Streptomyces genus microorganism

KAKEN CHEM KK 14.12.77-JA-149354

B03 (05.07.79) A23k-01/17 A61k-31/71 C07h-17/04 C12d-09/14 C12d-13

Antibiotic 6016 of formula (I) is new. (I) is prepd. by culturing a microorganism belonging to Streptomyces gunus and recovering the antibiotic from the resultant culture.



(I)

The antibiotic is effective to wide variety of Gram-positive and acid fast bacteria and fungi (esp. Bacillus subtilis PCI-219, B. cereus IAM-1729Y, Staphylococcus aureus FDA-209P-JCI, St. aureus, Micrococcus flavus IFO-3242, Mycobacterium avium IFO-3153, My. smegmatis ATCC-607, Alternaria kikuchiana, Diaporthe citri and Piricularia oryzae, and coccidium germ esp. Eimeria tenella. 14.12.77 as 149354 (9pp38)

SHIN- ★ D16 60868B/33 ★J5 4085-909

Seed contg. tablet e.g. for aquatic rice - first coated or impregnated with spores or bacteria, then coated with calcium peroxide and sand and then with outermost layer

SHINSHU KAGAKU KENK (MAED- NIPE-) 17.12.77-JA-152133

C03 P11 (09.07.79) A01c-01/06

A seed-contg. tablet is claimed designed with a view to sound growth and harvest of aquatic rice, cucumber, carrot, radish, and other vegetables. Tablet mfrd. by providing the surface of the seed of a vegetable as a core with active spores and its substratum with an effective germ for agriculture, e.g. Azotobacter agilis (IFO No. 3741), Acetobacter aceti (IFO No. 3281), Sacharomyces cerevisiae (IFO No. 0538 and IFO No. 0304), Lactobacillus acidophilus (IFO No. 3205), Lactobactillus batatas (IFO No. 12455), Streptomyces aureus (IFO No. 3175), etc. which are used in a combination of $\geqslant$2 species, then the surface of the spore and its substratum of the effective germ for agriculture is provided with a layer of calcium peroxide and sand, then the surface of the calcium peroxide and sand layer is provided with gelatin, clay, plastics, etc., to form the outermost layer of the seed-contg. tablet.

Tablet can be directly sown without the need for transplanting young aquatic rice plant, e.g. bred in breeding bed. 17.12.77 as 152133 (6pp117)

NIFE- ★ D16 60870B/33 ★J5 4085-941

Activator and compost for mushroom cultivation - comprises straw and nitrogen fixing component contg. phosphorus pent:oxide, silica, etc.

NIPPON FELLOW KK (TOSH-) 17.12.77-JA-152214

P13 (09.07.79) A01g-01/04

An activator and compost for the cultivation of mushroom comprises 100 wt. pts. of straw and 0.5-7 wt. pts. of an activator or nitrogen fixing component composed of 3-61 wt.% of P_2O_5 (40% of total P_2O_5 are water-soluble and the rest are citric soluble), 0.5-25 wt.% K_2O, 0.5-60 wt.% CaO, 0.1-25 wt.% MgO, 5-55 wt.% SiO_2, and 0.5-35 wt.% Al_2O_3 or a mixture of Al_2O_3 and $\geqslant$ 1 of MnO_2, B_2O_3, CuO, ZnO and MoO_3.

The mfg. process of the activator and compost is highly simplified, e.g. it takes 8-12 days, approx 1/2 of that of the conventional methods, and also turnover operation during mfr. is less than one time. The growth of saprophyte during mfr. is very low; and an increased yield of mushroom can be attained because of well-balanced supply of nutrients. 17.12.77 as 152214 (4pp117)

FUJI/ ★ D16 60871B/33 ★J5 4085-942

Inoculation of edible fungi - by mixing solid culture seed fungus with thickener and water, and inoculating onto wood for cultivation

FUJIMOTO T 16.12.77-JA-152146

A97 P13 (09.07.79) A01g-01/04 C12k-01

Inoculation of edible fungi, partic. Cortinellus Shiitake fungus, comprises mixing solid culture seed fungus cultivated in sawdust, etc., immediately before its inoculation onto wood for cultivation with $\geqslant$ 1 thickener, e.g. cellulose derivatives, starch, glycerine, polyvinylalcohol, sodium alginate, etc. and water to form a viscous fluid, and then the viscous fluid contg. solid culture seed fungus is inoculated onto wood for cultivation.

The working efficiency can be greatly improved because the fluid inoculation of edible fungi is possible without special equipments and technologies for performing liquid culture, and also the growth of fungi after inoculation can be greatly improved because there is no danger of the intermixture of saprophyte. 16.12.77 as 152146 (3pp117)

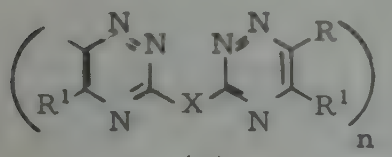
PHAR- D16 25705A/14 = J7 9020-472

Microporous ultrafiltration membranes - prepd. from hetero-aromatic polymers, used e.g. for filtering or concn. of fluids for intravenous infusion

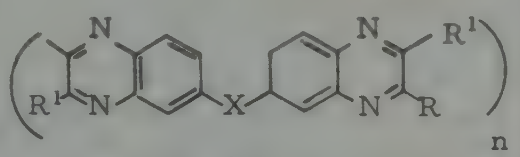
PHARMACO INC 29.09.76-US-728453

*A88 B07 J01 +P34 (A96 D15) (23.07.79) *DT2743-673 B01d-13/04*

Micro-porous selectively-permeable membranes are made from hetero-aromatic polymers of formulae (A)-(F):-



(A)



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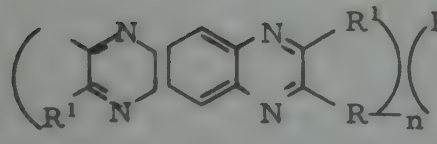

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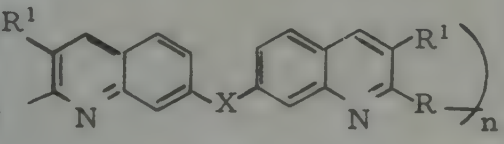
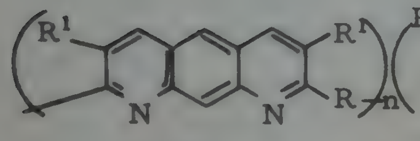


(D)



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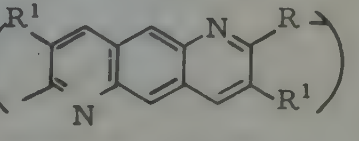
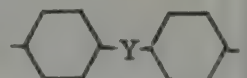


(F)

In the formulae R is phenylene, diphenylene  naphthylene, pyridylene, or 1-6C alkylene, Y is a direct bond, O, S, SO_2 or CH_2; R^1 is H or an aromatic or aliphatic gp. X is as Y or an isopropylene, CO or pyridylene gp. and n is 10-10000.

Membranes are made by casting a soln. of the polymer and contacting the thin layer with a non-solvent. Used for filtering or concn. of fluids for intravenous infusion to remove non-living particles, bacteria or viruses. Also for concn. and filtration of protein solns. clarification of wine, beer and syrups, removal of particles and germs from medicines water and chemical solns. etc. The membranes do not compact under pressures ⩽ 70 bar, resist soln. at pH 1-14 etc. 28.9.77 as 116546 (clg.29.6.76-US-728453) B01d-13/04 (23.7.79) PHARMACO INC (9pp) (J53043086)

HOKT ★ D16 60931B/33 ★J7 9020-573

Antigen for complement reaction of serum in lung disease - where Aspergillus fumigatus is cultured, then cell body and culture broth are extracted to produce antigen mixt.

HOKKAIDO COLLIERY STEAMS 13.07.73-JA-079559

B04 R16 (24.07.79) G01n-31/22 G01n-33/16

Aspergirus fumigus IFO-4057 is cultured in a culture medium, and then the cell body is subjected to extn. to give an antigen component. The filtered liquid of the cultured broth is subjected to extraction to give another antigen, and then the two antigens are mixed. 13.7.73 as 079559 G01n-33/16, 31/22 (24.7.79) HOKKAIDO (3pp22) (J50052229)

AJIN D16 12129Y/07 = J7 9020-600

Industrial fermentative amino acids prepn. from cheap carbon sources - using propionic acid or propionate and Corynebacterium

AJINOMOTO KK 00.00.75-JA-144217 (28.02.73-JA-024049)

*B05 E19 (24.07.79) *J52001-091 C12d-13/06*

The method involves culturing of Corynebacterium to produce amino acids such as alanine, arginine, histidine, histidinol, leucine, lysine, phenylalanine, proline, valine, tryptophan, homoserine, ornithine, threonine, isoleucine, or diaminopimelic acid. Propionic acid or propionate is used as the major carbon source for the culture medium. The culturing is generally effected at 24-37°C for 2-5 days at pH 5.0-9.0.

Generally, the growth of microorganism ishindered in culture medium of high propionic acid concn. so it is necessary to maintain propionic acid concn. below 2% (favourably 0.5-1.5%). The propionic acid (or propionate) is added continuously or intermittently during the fermentation to maintain the concn. in the above range.

Propionic acid and propionate are petrochemical prods. which have not previously had a worthwhile use. 28.2.73 as 144217/75 Div. ex 24049/73 C12d-13/06 (24.7.79) AJINOMOTO KK (4pp)(J52001091)

ALFA ★ D16 60966B/33 ★NL 7900-803

Continuous prodn. of ethanol - by fermentation of a carbohydrate source, centrifugal sepn. of yeast and distn. of the yeast-free stream

ALFA-LAVAL AB 31.01.78-SW-001133

E17 (02.08.79) C12b-01 C12c-11/14

Volatile organic cpds. esp. ethanol, are made by continuous fermentation of a carbohydrate-contg. substrate in a fermentation tank. A stream of the fermentation liquor is sepd. by centrifuging into ⩾1 yeast concentrate stream and a yeast-free stream. The yeast concentrate stream is recirculated to the fermentation tank and the yeast-free stream is sepd. into a stream which is enriched in the desired volatile organic cpd., which is recovered, and a residual stream which is at least partially recirculated to the fermentation tank.

Process allows ethanol to be made continuously using relatively conc. fermentation liquors, so that the amt. of environmentally-polluting dil. waste liquors produced in the process is small c.f. prior art. The ethanol is a useful raw material and is becoming increasingly important as a replacement for fossil fuels. 31.1.79 as 000803 (16pp513).

PLAN= ★ D16 60985B/33 ★SU -507-055

Microbiological nisin prodn. - using specified Streptococcus lactis strain for high yield

PLANT PROTECTION 27.12.73-SU-980512

B04 (28.02.79) C12d-09

Streptococcus lactis 24-24 resistant to phages has been obtd. by natural selection from less-active strain Streptococcus lactis 24 susceptible to attack by phages. The activity of the strain 24-24 in a 3:1 whey-milk hydrolysate is 400-8000 units/ml (strain 2400-4800 units/ml). It gives high yield of risin.

Sileva M.N., Litvinova M.N., Bulenkov G.I. et al.
Bul. 8/28.2.79 27.12.73 as 980512 (2pp70)

BAKU/ ★ D16 61005B/33 ★SU -547-471

Cultivation of microorganisms, e.g. algae - includes sepn. of suspension from nutrient directly during cultivation, with application of hydraulic jump

BAKULIN V A 12.05.75-SU-134149

(29.06.77) C12k-01

Cultivation of microorganisms, such as algae, in a nutrient medium, with subsequent sepn. is improved in that the sepn. of the suspension is carried out directly during the cultivation by application of a hydraulic jump; the removal of the prod. is carried out from the zone where the largest cells are located.

The process is accelerated and the yield are increased. The foaming tendency is suppressed and hence, there is no need to apply any antifoaming measure.

Bakulin V.A., Gorazeev N.V., Mikhailov N.G., et al
Bul. 7/25.2.77 12.5.75 as 134149 (2pp70)

MARY= ★ D16 61066B/33 ★SU -582-226

Lightweight structural concrete mix - contg. water glass, ground chalk and lignin contg. yeast hydrolytic fermentation waste

MARY POLY 05.07.76-SU-385239

(25.11.77) C04b-19/04

Addn. of technical lignin contg. waste (I) of the hydrolytic yeast formulation process, increases the corrosion and fire resistance of the lightweight concrete.

The mitx. contains (in wt.%): (I) 12-13, water glass

(II) 71-81 and ground chalk (III) the rest.

Typical mixt. contg. (in wt.%): (I) 12, (II) 72 and (III) 16, gave a concrete with density of 1030 kg/m^3 and compressive stregth of 29 kg/cm^2, showing no change after 96 hrs. immersion of 15% H_2SO_4 and after in holding in a gas flame for 1 hr.

Smirnov B.A., Bul. 44/30.11.77 5.7.76 as 385239 (2pp124)

AUGE= ★ D16 61082B/33 ★SU-596-563

Fertiliser contg. high concn. of trace elements - obtd. by treating red sea algae processing waste with nitric acid soln. and neutralising with alkali

AS UKR GEN INORG (WIGR) 28.06.76-SU-377905

C04 (14.02.78) C05f-05

Waste material, obtd. after extg. polysaccharides and proteins from red algae Phillaspora nervosa, is treated with conc. nitric acid soln. to obtain fertiliser rich in trace elements.

The waste is boiled for 1-1.5 hrs. with 15-20 g/l HNO_3 the extract is sepd. and neutralised with alkali to give final prod.

Gazha P.A., Samsonov A.M., Burtnenko L.N. et al. Bul 9/5.3.78 28.6.76 as 377905 (2pp938)

CHME= ★ D16 61084B/33 ★SU-602-548

Appts. for microorganisms sepn. from biological media and washing liq. - has housing with cells on both sides contg. electrodes and slots with valve to divide and control test medium gravity feed

CHELY MED INST 02.06.76-SU-367047

R16 (17.03.78) C12k-01 G01n-27/28

The sepn. of test microoganisms from biological media and from wash-off of environmental objects is ensured with the housing contg. a channel for the tested fluid. The chamber has cells on both sides as well as a flow divider, while the cells contain electrodes.

The fluid subject to examination passes by gravity into the chamber through the channel, and the flow divider directs streams to slots, the flow rate adjusted by a valve. The field generated by the electrodes forces the microorganism to move towards electrodes forces the microorganisms to move towards electrodes with opposed charges for accumulation in the cells. Species of microorganisms differ in the polarity of their charges, and thus their motions to the cells are varied.

Kuklenko V.G, Bul. 14/15.4.78 2.6.76 as 367047 (2pp 89)

MOPU= ★ D16 61133B/33 ★SU-631-135

Agar-type material prodn. from Black sea algae - includes treatment with hot alkali soln. and extn. with hot acidified water

MOSC PUBLIC PROP 20.04.77-SU-478258

(10.11.78) A23l-01/04

Black Sea algae Phylloflora are treated with a hot alkali soln., extd. with water contg. some acid, at pH 7.0-7.3 followed filtering and drying.

The process can be accelerated, and the consistency of the resulting gel can be controlled by introducing at the beginning of the extraction an acid which precipitates calcium; pref. H_3PO_4 in an amt. of 2.5-3 ml. per 100 g of air-dried algae; the temp. is 98°C; the duration is 60 min.

Baranov V.S., Trushkina V.A., and Pyaiv P.A., Bul. 41/5.11.78 20.4.77 as 478258 (2pp70)

KAZK ★ D16 61143B/33 ★SU-631-173

Liquid-gas contactor for blood oxygenation or effluent processing - has concentric cylindrical sections, with perforated base for gas and liquid flow

KAZAN KIROV CHEM TECHN 25.04.77-SU-478097

J04 (17.11.78) B01d-03/26

Contact device for reacting gases and vapours with liquids is used in equipment where gases are saturated by liquids, such as the satn. of physiological soln. by oxygen for the biological cultivation of micro-organisms intended for the biological purificn. of effluents or for the satn. of blood by oxygen in artificial blood circulation appts.

It comprises a container with a perforated base, with cylinders and separators positioned inside it concentrically. The degree of satn. of the liquid by the gas is increased (e.g. where the soln. is sensitive to mechanical mixing by providing boxes. One box is made with a perforated bottom and positioned between the cylinders above the main base and fastened by its side walls to the lower edges of the cylinders. The other box is fastened by its side walls to the side of the preceding boxes with some distance left between them.

Azizov B.M., Dobashov A.K., Razvalov G.I. et al. Bul. 41/5.11.78 25.4.77 as 478097 (3pp29)

KIPO= ★ D16 61168B/33 ★SU-631-214

Yeast separator control system - has housing mounted vibration sensor connected across position relay to switch for flow regulator

KIEV POLY 22.06.77-SU-500269

P41 (25.11.78) B04b-13

The previous yeast separator control system had a suspension feed control with flow sensor and regulator, and density sensors. Now vibration sensor and switch are introduced in order to determine the moment of onset of any obstruction of the separator drum. Less least is thereby lost with the effluent, and prompt detection can avoid fault situations and reduce wear. The system can be used for control of separators in other biochemical prodn.

Timchenko G.I., Ostapenko Yu.A., Bul. 41/5.11.78 22.6.77 as 500269 (3pp840)

FOOD= ★ D16 61316B/33 ★SU-631-526

Brewer's malt temp. automatic controller - has stirrer mounted cam operating temp. transducer levers follower for uniform grain malting

FOOD IND AUTOMATION 17.05.77-SU-489432

(25.11.78) C12c-01/04

The improved malting of grain is due to increased reliability of temp. control in the system comprising transducers and a shift mechanism. The latter is made up of articulated levers and a valve flap in the feed of heating or cooling agent with actuator controlled by a cam mounted on the malt stirrer.

The transducer shifting mechanism is set above the screen of the malting trough, and its roller contacts the cam. One end of the lever system is fixed while the free end carries the temp. transducer.

Zhurakovskii A.S., Balakin E.N., Melamud G.E., Bul. 41/5.11.78 17.5.77 as 489432 (3pp89)

BEER= ★ D16 61317B/33 ★SU-631-527

Beverage e.g. non-alcoholic beer prodn. mash filter - has floating decanter with air nozzle and spring loaded blade in agitator to improve solid phase sepn.

BEER NON ALCHOHOL 10.06.77-SU-496776

(25.11.78) C12c-07/14

Faster filtration of mash for the prodn. of beverages, and reduced loss of extractive substances are ensured by the float type decanter having an air nozzle.

The agitator has an additional spring-loaded knife, and the pipe feeding hot water is connected to the pump handling the wort. The inlet for the mash is fitted tangentially in the housing of the filter.

Kovbasyuk V.V., Lerner I.G., Lishchinskii B.F., Bul. 41/5.11.78 10.6.77 as 496776 (3pp89)

KAIS/ ★ D16 61318B/33 ★SU-631-528

Cytidine-di:phosphate choline pharmaceutical prodn. - by phosphorylation of biomass and choline deriv. in presence of enzyme

KAISALA V K 26.05.77-SU-489163

B05 (25.11.78) C12d-13

Cytidine-5'-diphosphate choline is produced by biologically phosphorylating a mixt. contg. a microorganism biomass (pref. yeasts), a choline deriv. a sugar source, $MgSO_4$, a phosphate buffer (pH 7.0) and water at 30°C, the prod. is subsequently purified.

The yield is increased by 30% by keeping the biomass before the phosphorylation, in the phosphate buffer at -20°C for 2-4 days; then adding 0.05-0.1 mg/ml of a green algae extract, 7-8 mg/ml of adenosine-5'-triphosphoric acid and, as a source of sugar, 10-30 mg/ml of 1,6-diphosphate-fructose. The title cpd. is used for the biosynthesis of phospholipides, and also as a medicine for brain diseases.

By this method, activated enzyme complexes are liberated.

Kaisala V. K., Ansberga S. E. and Kaula V. P., Bul. 41/5.11.78 26.5.77 as 489163 (2pp70)

AUMI= ★ D16 61319B/33 ★SU -631-529
2-O-Methyl-D-rhamnose microbiological prodn. - using Bacillus Faecalis alcaligenes strain 6 producer to reduce mfr. costs
AS UKR MICROBIOLOGY 15.06.77-SU-498635
E13 (25.11.78) C12d-13/04

2-0-Methyl-D-rhamnose, used in the microbiological inds. is produced in a simplified manner by cultivating Bacillus alcaligenes strain 6 in a nutrient medium. The strain was isolated from bile. It is gram-negative. It appears in the form of mobile, short rods (0.5-1-2u) It is grown in a meat-peptone agar or broth at 37°C for 1-2 days, under aerobic conditions.

The bacterial mass is washed with a physiological soln. dried with acetone and ether, and the specific polysaccharide is extracted by the known method.

Zdorovenko G.M., and Rashba E.Ya., Bul. 41/5.11.78 15.6.77 as 498635 (2pp70)

GULY/ ★ D16 61320B/33 ★SU -631-530
Catalase and gluco-oxidase microbiological prodn. - using specified penicillium fungal strain to increase yield and reduce mfr. costs
GULYI M F 14.06.77-SU-496287
(25.11.78) C12d-13/10

Catalase and glucosooxidase are sepd. from cultures of the mould fungus Penicillium vitale Pidopl, et Bilai by adsorption on kaolin in an acidic medium, with subsequent elution with a phosphate buffer, precipitation with an organic solvent, purificn. and drying.

The process is improved by additionally extracting the enzymes from the mycalium of the fungus; the mycelium is sepd. from the culture before the introduction of the kaolin adsorbent, then comminuted and subjected to extraction with a 3- to 4-fold volume of water. Catalase and glucosooxidase are adsorbed from the aq. extract at pH 4.0-4.3 and 3.4-3.5 respectively. By this method, the total yield of the enzymes is increased by 40-60%. Glucosooxidase is widely used as an antioxidant, and also for the medical analysis of glucose. Catalase is used in the fermentation industry.

Gulyi M.F., Degtyar R.G., Bolgin N.I. et al. Bul. 41/5.11.78 14.6.77 as 496287 (2pp70)

FERM= ★ D16 61321B/33 ★SU -631-531
Vodka from wheat source alcohol prodn. - includes use of softened water and multistage activated carbon treatment
FERMENT PRODUCT RES (MOLI=) 26.05.77-SU-491030
(10.11.78) C12g-03/04

Vodka "Pshenichnayer" (RTM) is a wheat vodka produced by softening water with a sulphocarbon removing organic contaminations by filtration through activated carbon, mixing the purified water with alcohol; filtering again and pouring into containers.

The quality of the prod. is improved by carrying out the filtration of the water before the softening. Before the pouring into containers, the vodka is kept for 2-4 h at 10-20°C to stabilise the taste. The treatment with activated carbon is carried out at a rate of 300-400 l/h.

Slavutskaya N.I., Kovalchuk E.B., Bachurina K.M. et al Bul. 41/5.11.78 26.5.77 as 491030 (2pp70)

SEPI/ ★ D16 61322B/33 ★SU -631-532
Weakly alcoholic aerated drink with improved organoleptic properties - contains quince juice, sugar syrup, ethanol, herbal alcoholic infusion and water
SEPIASHVILI SH S 17.01.77-SU-445770
(10.11.78) C12g-03/06

Weakly-alcoholic aerated drink contains quince juice, sugar syrup, ethanol and water. In order to improve the organoleptic properties of the prepared prods, increase its stability and extend the assortment of drinks, it additionally contains a herbal alcoholic infusion and carbon dioxide gas. The compsn. of the drink comprises (in vol.%) quince juice 20.0-30.0, sugar syrup 9.5-10.5, ethanol 2.5-3.5, herbal alcoholic infusion 0.4-0.6, and water is the remainder.

Sepiashvili Sh.S., Bul. 41/5.11.78 17.1.77 as 445770 (2pp932)

AMLC= ★ D16 61323B/33 ★SU -631-533
Crystalline suspension in wine removal - includes treatment with pectic acid as ion exchanger to prevent clouding
AS MOLD CHEM INST (MOKO=) 01.03.77-SU-457442
(10.11.78) C12h-01/04

Wines are protected against clouding by minute crystals by treatment with an ion-exchange agent, introduced in a quantity determined experimentally.

The process is intensified and the quality of the wine is improved by using as an ion-exchange agent pectic acid in an amt. of 0.3-2.0g/l (depending the result of the test).

Filippov M.P., Pustnaya H.N., Ponomarchenko V.B., Bul. 41/5.11.78 1.3.77 as 457442 (3pp70)

PROD= ★ D16 61324B/33 ★SU -631-534
Wine storage reservoir level compensator - includes temperature transducer and induction coil with float stem as core for easy servicing
PROD PROCESS AUTOMA 11.01.77-SU-444053
(10.11.78) C12h-01/22

The servicing and accounting of wine volume for compensation of its changes are simplified and accelerated by a make-up tank connected to the reservoir and contg. a unit for pressure balancing. The unit for scaling the wine volume includes a temp. transducer and an induction coil with a core in the form of float stem at the lower end. The stem carries the sealing diaphragm cover.

The pumped liquid raises the pressure in the system and lifts the float with the stem closing contacts and opening the valve. As a result, air is exhausted into the atmosphere through the tube of calcium chloride whose filtering properties trap valuable substances entrained by air. The condensate is returned to the balancing tank. With fluid level reaching the transducer, the pump is cut off till the float contacts the liquid in the balancing tank.

Maisuradze R.I., Manasherov R.G., Bul. 41/5.11.78 11.1.77 as 444053 (3pp89)

ANVR ★ D16 B/33 ★SW 7813-314
Calorimeter for biological cultures - has plate-like detectors in lower half of metal block whose upper half has bores to receive measurement and reference cells
AGENCE NAT VALORISATION 28.12.77-FR-039933
R14 (30.07.79) C12k-01 G01k-17

A metal block comprises upper and lower halves. The lower half has three apertures which contain plate-like detectors. The upper half has three vertical bores. Each bore contains a measurement or reference cell consisting of a cuvette with a small height-to-dia. ratio. The lower ends of two pipes pass through a stopper that closes the top of the cuvette. The ends of the pipes are above the top of a culture in the cuvette.

The appts. is suitable for studying aerobic and anaerobic bacteria, microbes, tissue etc. whose activity causes gas exchange. 27.12.78 as 013314 (-pp1407)

RAGH/ ★ D16 61438B/33 ★US 4162-912
Biological herbicide compsn. comprising Araujia mosaic virus - useful for controlling milkweed vine
CHARUDATTAN R 07.02.78-US-875846
C03 (31.07.79) A01n-09

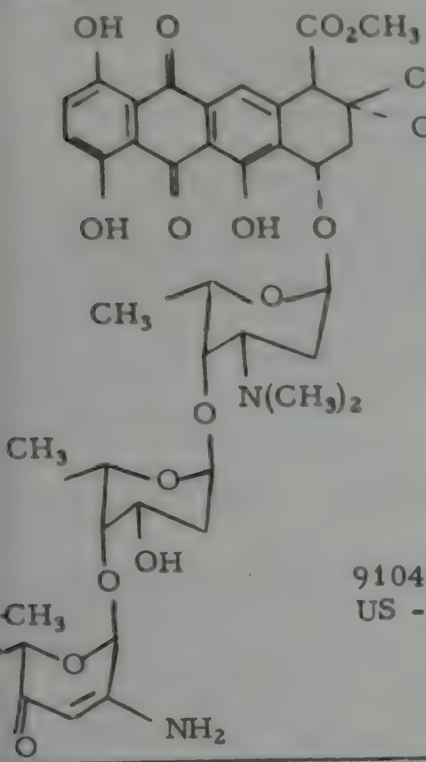
Biological herbicide compsn. comprises Araujia mosaic virus (AMV) together with a carrier.

AMV was recently detected in Argentina, where it was infecting Araujia augustifolia, a plant closely related to the vine. The AMV may be isolated from infected leaves, esp. by extrn. with borate buffer. This crude extract is suitable for use on the leaves of the vine when freshly prepd. (within 72 hrs.) or a pure prepn. of the AMV may be prepd. and stored. The vine leaves are pref. injured slightly before the AMV is applied, to facilitate infection.

The compsn. is useful for controlling milkweed vine (Morrenia odorata), which is a noxious weed pest in citrus crops and can not be adequately controlled by chemical herbicides. 7.2.78 as 875846 (2pp1248)

RIM ★ D16 61451B/33 ★US 4162-938
Antibiotic rudolphomycin prepn. - by submerged aerobic cultivation of Actinosporangium sp. ATCC 31127, useful as antibacterial and antitumour agent
BRISTOL MYERS CO 30.05.78-US-910408 (18.07.77-US-816427)
B03 (31.07.79) C12d-09/14

repn. of rudolphomycin of formula (I) comprises cultivaing (I) Actinosporangium sp. ATCC 31127 in an aq. nutrient medium contg. assimilable sources of C and N under submerged aerobic conditions, and isolating (I) from the culture medium.



(I)

(I) is an antibacterial mainly effective against Gram-positive strains, and an antitumour agent, e.g. effective against leukaemia L1210. The Parent Patent claimed (I) and its acid addn. salts. 30. 5. 78 as 910408 Div. ex 4123608 (+ 25. 1. 78 - US - 872291) (17pp927)

KURE D16 18072A/10 =US 4162-939
Basidiomycetes e.g. coriolus veriscolor cultivation - on media contg. glucose and yeast extract to increase yield of antitumour polysaccharide-contg. mycelium
KUREHA KAGAKU KOGYO 30.08.76-JA-102628
*B04 +P13 (31.07.79) *DT2737-471 C12b-01/08 C12b-03/12 C12d-13/04*

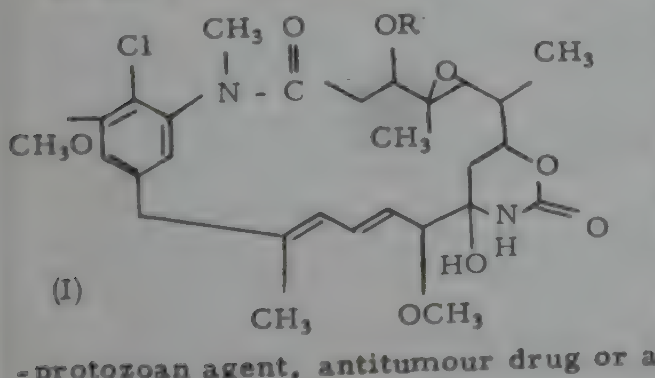
Cultivation of a Basidiomycete belonging to the genus Coriolus in a synthetic culture medium at 25±3°C under stationary or submerged conditions is improved by cultivating the Basidiomycete in a glucose-yeast extract culture medium consisting of 7.5-15 (10-15 wt.% glucose, yeast extract and water, the wt. ratio glucose to yeast extract being 3-15 : 1 (6-10 : 1). Pref. the Basidiomycete is coriolus versicolor (Fr.) Quel.

Use of the above medium significantly increases the yield of mycelia. 12. 8. 77 as 824117 (3pp992)

TAKE D16 92050A/51 =US 4162-940
Antibiotic C-15003 inhibits growth of Talaromyces avellaneus - prepd. by cultivation of Nocardia strain
TAKEDA CHEMICAL IND KK 01.04.77-JA-037886 (31.03.77-JA-037166)
*B02 (31.07.79) *J53130-495 C12d-09/20*

Antibiotic C-15003 of formula (I) is produced by cultivating a microorganism belonging to the genus Nocardia in a culture medium contg. assimilable carbon sources and digestible nitrogen sources.

In (I), R is -COCH(CH$_3$)$_2$, -COCH$_2$CH$_2$CH$_3$ or -COCH$_2$-CH(CH$_3$)$_2$. Pref. the microorganism is Nocardia No. C - 15003 (ATCC 31281; IFO 13726; FERM 3992) or its mutants or variants thereof.



(I)

The antibiotic is useful as an anti-fungal agent, anti-protozoan agent, antitumour drug or antimicrobial agent. 29. 6. 77 as 811448 (10pp992)

KABI D16 31921X/18 =US 4162-941
Polypeptide chromogenic substrates for serine proteases - used to determine blood coagulation factor XA
KABI AB (BOFO) 05.12.74-SW-015229
*B04 R16 +P31 (31.07.79) *BE-836-085 G01n-31/14*

Diagnostic determn. of a proteolytic enzyme (Xa factor) comprises contacting the enzyme with a chromogenic substrate of formula R$_1$-A$_1$-A$_2$-Gly-Arg-NHR$_2$ (I), or a salt of (I), and spectrophotometrically measuring the degree of enzymatic hydrolysis caused by the enzyme acting on the substrate.

In (I), R$_1$ is H, 1-12C akanoyl, cyclohexylcarbonyl, benzoyl (opt. substd. by one or two halogen atoms, methyl -amine or phenyl gps.), benzenesulphonyl or toluenesulphonyl. R$_2$ is a chromophoric gp. A$_1$ is a single bond or an amino acid selected from Gly, Ala, Val, Leu, Ileu, Pro, Met, Phe and Tyr. A$_2$ is Glu, Gln, Asp or Asn. 4. 3. 77 as 774350 Div. ex 4028318 (+ 14. 11. 75 - US - 631974)(5pp992)

AMST- ★ D16 61452B/33 ★US 4162-942
Determination of ethylene oxide sterilisation residual - by extn., enzyme treatment, and assay of enzyme inactivation
AMERICAN STERILIZER 17.05.77-US-797736
E13 R16 (D22) (31.07.79) C12k-01 G01n-31/14

The residual components (I) left in materials after sterilisation with ethylene oxide (II) are determined as follows- (a) the material is extracted to remove (I); the extracted (I) are reacted with an enzyme (III) known to be inactivated by (I); and (c) the loss of enzyme activity is determined.

(I) include (II), ethylene chlorohydrin, and ethylene glycol. Step (a) extn. is with e.g. H$_2$O, isotonic saline, or substrate soln. (10-50 ml/g) for 1-24 hr. at 5-65°, pref. to remove 100% of (II). Step (b) enzyme is suitably an oxidn. enzyme, transferase, or hydrolase, and treatment is for 1-24 hr. at 5-65° using 10-1000 μg enzyme/g of material extracted.

Practical biological method affords a direct indication of possible toxicity in articles sterilised by (II). 17. 5. 77 as 797736 (4pp478)

BEEC D16 72175X/39 =US 4163-051
Antibiotic MM 17880 from streptomyces olivaceus - active against gram positive and negative bacteria, synergistic with ampicillin and amoxycillin
BEECHAM GROUP LTD 15.03.75-GB-010914
*B04 (31.07.79) *BE-839-324 A61k-35*

Di-Na or di-K salt of MM 17880 is prepd. to a purity of ⩾75%. MM 17880 is a di-acidic solid of molecular formula $C_{11-14}H_{18-25}O_{8-11}N_2S_2$ which in the di-Na salt forms has the characteristics (a) when present at 0.4% w/w in KBr disc gives specified IR spectrum; (b) characteristic NMR spectrum in deuterium oxide, (c) characteristic UV spectrum in water with absorption max. at ~297nm., (d) possess antibacterial acitivity against Gram-positive and -negative organisms, including strains of Bacillus substilis, Enterobacter cloacae, Escherichia coli etc., and (e) when mixed with ampicillin or amoxycillin synergises their antibacterial acitivity.

The process comprises chromatographically purifying a soln. of MM 17880 by passing it in an aq. lower alkanol through a bed contg. a recoverable amt. of cellulose, collecting those fractions having a UV absorption max. at ~297 nm, and removing the solvent from the soln. 23. 9. 76 as 725864 (+8. 3. 76, 23. 8. 76 - US - 664917, 716971)(9pp924)

MINA ★ D16 61546B/33 ★WP 7900-541
Affinity chromatography media for protein binding - prepn. from matrix linked to chloro-triazinyl gp. in presence of alkali
UK SEC FOR DEFENCE (ATKI/) 27.01.78-GB-003505 (24.01.78-GB-002878)
A97 B04 J01 (09.08.79) B01d-15/08 C07g-07 C08b-37/12 C09b-62/04
D/S: N(JA, SU, US).

In apparatus for winding a back cloth or a fabric round a decatising cylinder, the winding cylinder is located below an unwinding decatising cylinder. The back cloth or fabric is allowed to drop under its own weight to pass its leading edge to the winding cylinder to be caught. The remainder of the material is then passed to the winding cylinder.

Process reduces the still time of the machine while passing the leading edge of the material to the winding cylinder.

19.1.79 as DT0005 (15pp249).
(G) ISR: FR2071572; FR2142917; 1 Journal Reference.

See Also

D11 US 4163065
D13 J5 4084056
D13 J5 4084068
D13 J7 9020431
D13 SU 576967
D15 US 4162970
D15 US 4162971
D17 DS 2417642
D25 DS 1808834
D25 US 4162987

D17: SUGAR; STARCH

SYND- ★ D17 59810B/33 ★BE -874-024
Purificn. of sugar syrup by electrodialysis - using conc. elution liquid, pref. contg. molasses
SYNICAT NAT FABRICA 09.02.78-FR-003624
(08.08.79) C13f

The purificn. of sugar syrups contg. ionisable impurities comprises using an elution liquid of high brine concn. and changing this liquid with a solute (pref. molasses) selected to give it an increased viscosity and have a conductivity of the same order as the syrup. A specif. embodiment comprises, before purifcn. under an electric field, passing the syrup through an anion exchange column charged with light ions, partic. chlorides.

The process enables less elution liquid to be used with a consequent reduced volume of effluent and also less sugar loss. 8.2.79 as 874024(8pp597).

PINE- ★ D17 B/33 ★BR 7807-759
Extraction of juice from a material sample, esp. sugar cane
PINETTE-EMIDECAU 28.11.77-FR-035692
P71 (31.07.79) B30b-09/20 C13d-01/02

URBA/ ★ D17 B/33 ★CS 7705-157
Purification and decolourisation of liquid intermediates - in particular sugar industry products by sorption powder
URBAN A 04.08.77-CS-005157
(30.04.79) C13d-03/12

ROQF D17 74362V/43 = DS 2417-642
Enzymatic isomerisation of glucose to fructose - using streptomyces violaceoniger CBS 409-73
ROQUETTE FRERES SA 10.04.73-FR-012864
*E13 (D16) (09.08.79) *BE-813-554 + C07h-03/02*

The enzymatic isomerisation of glucose to fructose is carried out by a strain of Streptomyces violaceoniger CBS 409-73. The isomerisation is effected at 50-75°C, a pH of 6-8 and a concn. of glucose of 25-60% of $CoCl_2$ of 0-0.50 g/l and of $MgSO_4$ of 0-2.4g/l. 10.4.74 as 417642 (7pp068)

AGEN ★ D17 60932B/33 ★J7 9020-577
Fructose and glucose sepn. - using sulphurous acid type anion exchange resin column, and water as eluant
AGENCY OF IND SCI TECH 02.10.70-JA-086507
E13 (24.07.79) C13k-03

A mixt. of fructose and glucose is passed through a sulphurous acid type anion exchange resin heated at 35-55°C, and then elution is conducted using water, whereby first fructose is eluted and then glucose is eluted. A large volume of the sugar mixt. can be treated per unit time and the anion exchange resin can be used repeatedly without purificn. The fructose and glucose can be recovered at high purity and high concn. as well as in high yield.

In an example, HSO_3 type ion exchange resin of 200-400 mesh is packed in column (2 x 30 cm) and the temp. is kept at 35°C by circulation of water in a jacket surrounding the column. A mixt. of 2400 mg of fructose and 340 mg of glucose is passed through the column and then elution is effected with water continuously. 2.10.70 as 086507 C13k-3/00 (24.7.79) AGENCY OF IND SCI TECH (9pp22)

AGEN D17 40563T/25 = J7 9020-578
Separating carbohydrates - using ion exchange resins in sulphite or b form
AGENCY OF IND SCI TECH 09.12.70-JA-109162
*E13 (24.07.79) *BE-776-484 C13k-03*

A mixt. of fructose and glucose is passed through sulphurous acid type anion exchange resin kept at ≯ 30°, and then elution is conducted with water, whereby at first fructose is eluted and then glucose is eluted. A large vol. of the sugar mixt. per unit time can be treated; the anion exchange resin can be used repeatedly without purificn. the fructose and glucose can be recovered at high purity and high concn. as well as high yield.

In an example HSO_3 type ion exchange resin of 100-200 mesh is packed on column (1.75 x 60 cm) and the temp. is kept at 30°C. A mixt. of 655 mg of fructose and 660 mg. of glucose is passed through the column, and then elution is made with water continuously. 9.12.70 as 109162 C13k-3/00 (24.7.79) AGENCY OF IND SCI TECH (3pp22)

AGEN D17 40563T/25 = J7 9020-579
Separating carbohydrates - using ion exchange resins in sulphite or b form
AGENCY OF IND SCI TECH 09.12.70-JA-109162 (00.00.73-JA-004813)
*E13 (24.07.79) *BE-776-484 C13k-03 C13k-07*

A mixt. of maltose and glucose is passed through a column packed with sulphurous acid type anion exchange resin, and then elution is effected with water, whereby maltose can be recovered separately from glucose, the column being kept at 40-60°C. A large vol. of maltose glucose mixt. can be treated at one time, maltose and glucose can be recovered at high purity, high concn. and high yeild.

In an example HSO_3 type anion exchange resin is packed in a column (1.75 x 75 cm), the particle size of the resin being 100-200 mesh, and the column is kept at 40C. Then a mixt. of 836 mg of maltose and 916 mg of glucose is passed through the column and then elution is conducted with water continuously. 9.12.70 as 4813/73 Div. ex 109162/70 C13k-3/00, 7/00 AGENCY OF IND SCI TECH (3pp22)

AGEN D17 40563T/25 = J7 9020-580
Separating carbohydrates - using ion exchange resins in sulphite or b form
AGENCY OF IND SCI TECH 09.12.70-JA-109162 (00.00.73-JA-004814)
*E13 (24.07.79) *BE-776-484 C13k-05 C13k-13*

A mixt. of lactose and lactulose is passed through a column packed with sulphurous acid type anion exchange resin kept at 40 to 60°C, and then elution is made using water. A large vol. of the sugar mixt. can be treated at the one time, lactose and lactulose can be recovered at high purity, high concn. and high yield.

In an example, sulphurous acid type anion exchange resin of 100 to 200 mesh was packed in a column (1.75 x 50 cm) and kept at 40 C by circulation of water in a jacket. A mixt. of 587 mg of lactose and 203 mg of lactulose was passed through the column, and elution was conducted with the use of water continuously. 9.12.70 as 4814/73 Div. ex 109162/70 C13k-5/00, C13k-13/00 (24.7.79) AGENCY OF IND SCI TECH (3pp22)

CASI/ D17 27532S/16 = J7 9020-581
Water-insoluble pentosans
CASIER J (CAS /) 25.08.70-LU-061573 (09.10.69-LU-059598)
*(D13) (24.07.79) *NL7013-792*

KIFO= ★ D17 61006B/33 ★SU -547-474
Continuous vacuum crystalliser for sugar etc. - has heating surface of hollow discs layered in annular space between vessel wall and tube
KIEV FOOD IND TECH 31.12.74-SU-095147
J01 (29.06.77) B01b-01 B01d-09/02 C13g-01

The crystallisation of crystalline material e.g. sugar is accelerated and decompsn. of e.g. sucrose is prevented with prevention of mixing of massecuite contg. different sizes of crystals are ensured by hollow discs. The latter are mounted in layers and form the heating surface for crystal growing, and are secured in the annular space between the vessel wall and tube sepg. the chamber into ections.

The discs carry concentric ring partitions bounding nnular channels, and have slots and guide plates for hifting the crystals from one channel to another one.
Gulyi I.S., Bul. 7/25.2.77 31.12.74 as 095147 (6pp89)

TAR= ★ D17 61025B/33 ★SU -558-939
tarch bearing material e.g. potato grinder - has accelerating rotor ousing the hammer rotor for preliminary crushing
STARCH PROD RES 18.12.75-SU-301205
P41 (21.09.77) B02c-13/09 C13c-01/02

Fine grinding of e.g. potatoes or other large lumps of starch bearing stock, and reduced losses of prod. are ensured by hammers carrying rotor inside the accelerat- ng rotor.

The hammers provide the preliminary breaking up of arge lumps, and a sepg. screen is fitted between the rotors. The screen is made up of separate sections featuring inner cavities and a perforated bottom, while the sides have a mesh. The accelerating rotor features a ring slot with through holes below the screen.
Andreev N.R., Bakulin V.A., Pevzner G.M. Bul. 19/ 25.5.77 18.12.75 as 301205 (3pp89)

KIFO= ★ D17 61135B/33 ★SU -631-137
Combined sugar beet chipper and electro-plasmolyser - has knives and electrode strip mounted in a frame with strips completing electric circuit
KIEV FOOD IND TECH 01.06.77-SU-493971
(10.11.78) A23n-01

Device for cutting sugar-beet and simultaneous electroplasmolysis of the chips, comprises a body, frame to which the knives and electrode are fastened, with the electrode connected to one of the terminals of a source of an electric current. Plasmolysis effectiveness is increased by making the electrode as a movable strip fastened to the frame by means of an insulation intermediate layer. The other pole of the current source is connected to the frame. The body also has hollows, and the frame and strip have contact pins which are disposed inside the hollows.
Fedotkin I.M., Zharik B.N., Timonin A.N., et al.
Bul. 41/5.11.78 1.6.77 as 493971 (3pp29)

SUGA= ★ D17 61325B/33 ★SU -631-535
Sugar prodn. aq. extract purificn. - includes passing direct electric current at elevated temp., using soluble aluminium-magnesium anode
SUGAR IND RES INST 01.06.77-SU-491715
(10.11.78) C13d-03/18

In sugar bearing plants, the diffusion juice is purified by heating it and passing d.c. using soluble anodes.

This method is improved by using an Al-Mf anode (10-25% Mg); the electricity consumption is 2800-3500 A.h/m^3. By this method, the filtration properties of the juice are improved; a dense ppte. is formed, magnesium depassivates the anode. The purificn. degree is enhanced. The yield of sugar is increased, because of the decreased amt. of molasses.
Belostotskii L.G., Suprunchuk V.V., Shoikhet A.I. et al
Bul. 41/5.11.78 1.6.77 as 491715 (3pp70)

MEYH- ★ D17 61444B/33 ★US 4162-925
Phosphated locust bean gum soluble in cold water - useful in gels with xanthan gum for foods, explosives, oil well slurries, agricultural applications, etc.
MEYHALL CHEMICAL AG 10.05.78-US-904689
A11 C03 H01 (31.07.79) C08l-05

Phosphated locust bean gum having a degree of substitution of 0.03-0.5 is new. The gum pref. has a degree of substitution of 0.07-0.1. Combinations of 50-90% of the gum with 50-10% xanthan gum are esp. pref., partic. 70-80% and 30-20% compsns. Xanthan gums are described in U.S. 3557016 and 4038206.

The phosphated gum is obtd. by treating the gum with an alkali metal phosphate, e.g. obtd. from aq. NaOH and H_3PO_4 to pH 6-7. Typically 100 pts. gum is treated with 4-20 pts. NaOH and 6-30 pts. H_3PO_4 in soln. at pH 6-7, esp. with 10 pts. NaOH and 14.7pts. H_3PO_4. A mixt. of NaH_2PO_4 and Na_2HPO_4 in the molar ratio 2:1-1:2 may also be used; 8-40 pts. mixt. being used per 100 pts. gum. Usually 20-100 pts. water is present per 100 pts. gum, with $\geqslant$20 pts. organic solvent per 100 pts. gum. Reaction is at 120-180°C for 0.5-4 hrs.

The gums in cold water form viscous sols; they may be combined with xanthan gums and the blends in cold water at 0.1-2% concn. form viscous gels without high shear agitation. The gels are thickeners and suspending agents in foods, explosives, oil well slurries, in agricultural applns. etc.; they are esp. useful for fluid drilling of pregerminated seeds to give accurate and precision spacing in soil furrows. 10.5.78 as 904689 (4pp1248)

GRAC D17 37194B/20 =US 4162-926
Spray drying solns. contg. mixture of sugars - in two stages the first in presence of recycled product
GRACE W R CO 11.01.78-US-868661
*(31.07.79) *BE-873-390 B01d-01/18 + C13f-01*

Complex sugar solns. are dried to form a stable, solid, particulate prod. by (a) drying dispersed complex sugar solns. in a current of heated gas (inlet temp. = 100-300°C, outlet temp. = 60-120°C) and in the presence of 1-10 pts. wt. per pt. wt. solids in soln., of separately introduced recycled conditioned solids to produce a solid prod.; (b) contacting the prod. with a conditioning gas, having a humidity of $<$50% and having a temp. below the m. pt. of the formed solid, to reduce the water content of the solids to $\leqslant$ 0.5% and (c) recycling a portion of the conditioned solids to the drying zone.

Process gives a storage-stable prod. from mixed or complex sugar solns., e.g. high fructose corn syrup. Prod. density can be controlled. 11.1.78 as 868661 (5pp992)

MORF/ ★ D17 61445B/33 ★US 4162-927
Apparatus for crystallising sugar - both from solution and mother liquors, continuously by evaporation
MORFIN-ALVAREZ R 13.11.72-MX-139691
(31.07.79) B01d-09/02 C13f-01/02

Sugar is continuously crystallized by evaporating a highly concentrated mass of liquid under a vacuum. The process is carried out in an appts. which comprises a hollow cylindrical vessel having a slot extending completely along its upper wall. A rectangular cover is positioned over the slot and acts as a vapour chamber. A shaft with radial paddles exerts a helicoidal movement to the liquid in the vessel.

Liquid may be added to control the concn. of the liquid through distributor pipes which extend through the cover at regularly spaced intervals. Elbow couplings are connected to the distribution tubes and to these reduction tubes are connected which extend perpendicular to the central axis of the vessel. Sight holes are spaced along the cover in line with the reduction tubes. The level to which the vessel is filled is regulated by a sliding barrier near the discharge end of the vessel.

The appts. may be used to continuously crystallize by evaporation both sugar solns. and mother liquors. The two different processes of crystallization can be carried out in a single appts. 11.5.77 as 795833 (+ 25.8.75 - US - 607730) (9pp295)

See Also

D16 DS 2061371 D16 DS 2803245

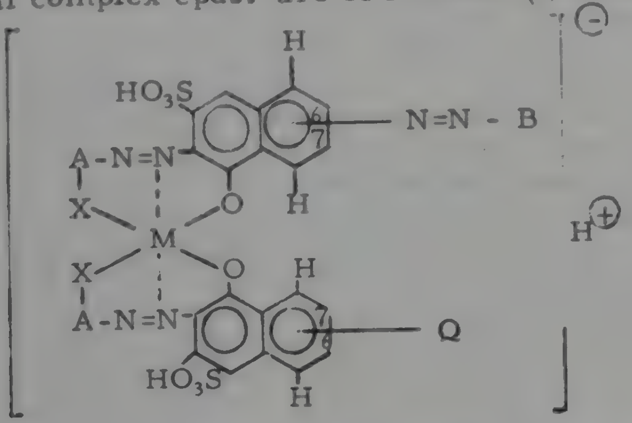
D18: SKINS; HIDES; LEATHER; TOBACCO

AUTA- D18 07069U/06 =DS 2234-036
Tobacco smoke filter - contg diethanolamine - impregnated water-contg carrier
AUSTRIA TABAK AG (AUT -) 15.07.71-OE-006157
*E16 P15 (09.08.79) *DT2234-036 A24d-01/06*

A tobacco filter comprises a porous silicate carrier material impregnated with 1-100% (based on dry wt.) of hydroxyalkylamines of formula $NH(ROH)_2$ (where R is a 2-3C alkyl). The carrier material has an av. particle size of 0.1-1 (0.5-0.8) mm, a water content of 20-100 (50)% (based on dry wt.) and an inner surface area of $1m^2/g$. 11.7.72 as 234036 (3pp068)

SANO ★ D18 60118B/33 ★DT 2805-243
1,2-Metal complex diazo dyes - giving fast black, grey, green, etc. colours on leather etc.
SANDOZ-PATENT-GMBH 08.02.78-DT-805243
A60 E21 F06 (09.08.79) C09b-45

New 1:2-metal complex cpds. are of formula (I) in the free acid form



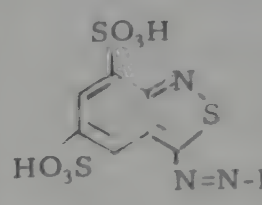
(I)

In (I) A is a vicinal divalent, opt. substd. by 1-4C alky 1-4C alkoxy, halogen, NO_2, SO_3H or COOH aromatic carbocyclic mono- or dinuclear gp.; X is-O- or -COO-; B is the residue of a coupling component contg. ≥ 1 enolic OH gp., a coupling component of the benzene series with ≥ 1 phenolic OH gp. or a $-NR_1R_2$ gp., or a coupling component of the naphthalene series, or a coupling component of the naphthalene series with ≥ 1 aromatic bound OH gp. but no amino gps.; Q is a gp. -N=N-B, or, if B is a gp. of the benzene series, Q may be $-NHR_3$; R_1 is H, 1-6C alkyl or 2-4C hydroxyalkyl; R_2 is H, 1-6C alkyl, henyl, (1-6C alkyl) -phenyl or 2-4C hydroxyalkyl; R_3 is an acyl residue of an aliphatic carboxylic acid; and M is a metal capable of forming a 1:2-metal complex. The two gps. A, the two gps. X and (if Q is -N=N-B) the two gps. B may be the same or different.

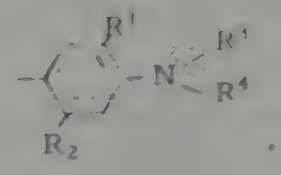
The cpds. (I) are useful black, brown, grey, green and violet dyes for dyeing natural and regenerated cellulose, polyurethanes, base-modified polypropylene, natural and synthetic polyamides and (esp.) leather, and anodized aluminium. The dyes have good water solubility and are fast to light, moisture, alkalis and PVC migration. 8.2.78 as 805243 (45pp513).

BADI ★ D18 60124B/33 ★DT 2805-304
Azo dyes contg. benzisothiazole di:sulphonic acid gp. - give fast red to green-blue tints on polyamide(s, pelts etc.
BASF AG 08.02.78-DT-805304
A60 E21 F06 (09.08.79) C09b-39

Acid azo dyes are claimed having the formula (I) in the free acid form, in which K is the residue of a coupling component. Typical coupling components K are



(I)



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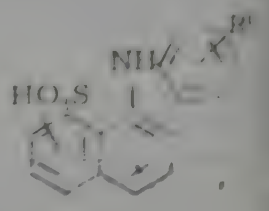

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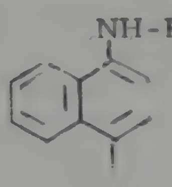

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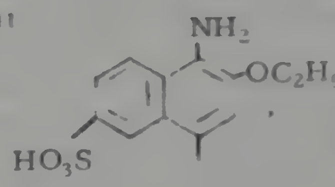

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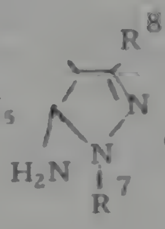

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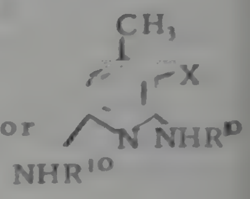
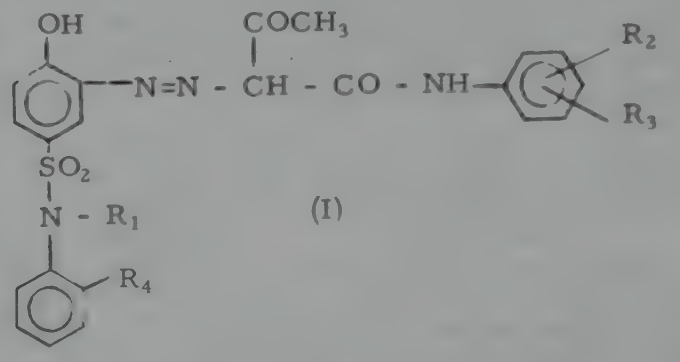


in which R^1 is H, Me, OMe or OEt; R^2 is H, Cl, Me, Et, benzyl, sulphobenzyl, OMe, OEt, $NHCO-C_{1-4}$ alkyl, acylamino or SO_3H; R^3 is H, 1-4C alkyl, 2-3C hydroxy- or dihydroxyalkyl, β-sulphoethyl, γ-sulphopropyl, β-cyanoethyl, β-hydroxy-γ-chloropropyl, 1-4C alkoxyethyl, acetoxyethyl, β-chloroethyl, γ-amino or γ-acetylaminopropyl, β-carboxyethyl, β-carbamoylethyl, benzyl, sulphobenzyl, phenylethyl, sulphophenylethyl or cyclohexyl; R^4 is 1-4C alkyl, 2-3C hydroxyalkyl, β-cyanoethyl, β-chloroethyl, 1-4C alkoxyethyl, benzyl or sulphobenzyl; R^5 is amino, acetylamino, chloracetylamino, phenoxyacetylamino, benzoylamino, chlorbenzoylamino or dichlorbenzoylamino; R^6 is (chloro)methyl, phenyl, chlorophenyl or acetylamino; R^7 is 1-8C alkyl, 2-3C hydroxyalkyl, phenyl-1-4C alkyl, cyclohexyl or phenyl; R^8 is H or 1-3C alkyl; R^9 is H, 1-4C alkyl, 1-4C alkoxy, 2-3C alkyl or hydroxyethyl or -propyl; R^{10} is (cyclo)alkyl or aryl or one R^{10} may be H; R^{11} is H, 1-4C alkoxy, benzyloxy or phenoxy-substd. 1-4C alkyl; X is CN or carbomoyl.

(I) are red to green-blue dyes which are esp. useful for dyeing natural and synthetic polyamides, wool, pelts etc. The dyes have very high colour strength and give dyeings with very good resistance to light, moisture, sweat, seawater etc. 8.2.78 as 805304 (22pp513).

SANO ★ D18 60125B/33 ★DT 2805-306
Mixts. of 1:2-cobalt complex azo cpds. - giving reddish yellow colours on polyamide(s) anodised aluminium etc.
SANDOZ-PATENT-GMBH 08.02.78-DT-805306
A60 E21 F06 (09.08.79) C09b-45/20

Mixts. of symmetrical and asymmetrical 1:2-cobalt complex azo cpds. of formula (I) are claimed



(I)

where R_4 is H or COOH; R_1=H or 1-4C alkyl and R_2 and R_3 = H, halogen, 1-4C alkyl or 1-4C alkoxy gps. The complexes may be in acid or salt form. Pref. the ratio (I):(II) in the mixt. is 80:20 to 20:80, pref. 60:40 to 40:60 and partic. 1:1.

The complexes have good water solubility and give fast reddish yellow colours and printings on natural and synthetic polyamides, wool, silk, polyurethanes, base-modified polyolefins, leather and anodised aluminium. The colours are fast and resistant to light, moisture, seawater, sweat, solvents, chlorine, salt, and rubbing. 8.2.78 as 805306 (23pp513).

SETB D18 72205X/39 =GB 1550-693.
Adhesive for tobacco prods. - consisting of aq. gel contg. major proportion of gelatine, and plasticising vegetal gum or cellulose ether
SERVICE EXPL IND TABACS 05.05.75-FR-013922
*A97 P15 (15.08.79) *BE-841-472 +C07g-07*

A glue is produced for articles of the tobacco industry, characterised in that at ambient temp. it is in gel form composed mainly of water and 25-100 wt.% of gelatine w.r.t. wt. of water, plus a minor proportion of plasticiser for the gelatine in aq. soln.

The plasticiser is a feed polymer comprising natural or modified vegetable gums or cellulose ether, being present in concn. 0.25-8 wt.% w.r.t. gelatine alone. The plasticiser concn. is adjusted so that the temp. at which the liquefied gel viscosity is 50-1000 centi-poises is 40-70°C.

The glue prepd. is esp. used in cigarettes, cigarillos, cigars, filter tipe and coupling-sleeves, esp. where a wrapping tape is used with poor gluing qualities. 5.5.76 as 018356 (4pp931)

GALL- ★ D18 60233B/33 ★GB 2013-476
Smoking prods. contg. catalysts with high activity - for oxidising carbon mon:oxide at low temps. to carbon di:oxide
GALLAHER LTD 12.01.79-GB-001308 (20.01.78-GB-001309)
J04 P15 (15.08.79) A24b-15/02 B01j-23/56

A smoking prod. or filter consists of a support carrying one or more metals or metal cpds., and has an activity of 60-100% at 25°C after 10 puffs of a test mixt. contg. 3% CO, 10% CO_2, 13% O_2 and 74% N_2. 500 mg samples of catalyst are used in the test, and 35 ml puffs lasting 2 seconds are passed at intervals of 1 minute.

The catalysts pref. contain one or more of Fe, Co, Ni, Ru, Rh, Pd, Os, Pt, Cr, Re, W or Sn, or their cpds.; esp. a combination of Sn and another metal. The support is pref. a hydroxyl-contg. microporous material e.g. alumina, or esp. a zeolite.

The catalysts are more active than any previously used. 12.1.79 as 001308 (7pp995)

INME- ★ D18 60265B/33 ★GB 2013-715
Continuous skin fleshing machine with two opposing sections - each including working cylinder and draft roller for treating skin at single pass
IND MEC ARZIGNANO 03.02.78-IT-085511
(15.08.79) C14b-01/02

Each section is equipped with operating tools and a feed device and each section works on about half of the skin. The first section works upon the second half of the skin and the second section upon the first.

The skin is advanced in the two sections of the machine in opposite directions so as to cause the worked skin to emerge from the machine in the intermediate space between the two sections. The machine is used for the continuous fleshing, exposing or cleaning of a whole skin for tannery work. A whole skin can be treated by a single pass through the machine. 29.1.79 as 003010 (5pp295)

NIPE ★ D18 60511B/33 ★J5 4084-001
Re-tanning and greasing agent - contg. the neutralised salt of an organo sulphonic acid oligomer
NIPPON PETROCHEM KK 14.12.77-JA-150139
A97 (04.07.79) C14c-03/20

Re-tanning and greasing agent contains the neutralised salt of the organic sulphonic acid oligomer obtd. by heating 1 5-100C (7-40C) cpds. of formula (a) $R_2(-SO_2)$, (b) $R_2(-SO_3H)(OH)$ or (c) $R_1(R_2(-CH=CH-))-SO_3H$ at above 110°C favorably at 120-200°C. In the formulae, R is H or monovalent hydrocarbon gp.; and R_2 is divalent hydrocarbon gp. provided R_1 and R_2 contain no non-aromatic double bonds or triple bonds.

The agent shows simultaneous tanning and greasing effect. Thus it can be used with common tanning agent such as chrome for practicing tanning and greasing through a process. It can also be used alone or together with common greasing agent such as natural oil, its sulphated oil and/or mineral oil in the greasing process after the tanning process. Cpds. (a), (b) and (c) can be prepd. inexpensively by sulphonising mono-olefin with sulphur trioxide. The neutralisation is pref. effected with ammonia, alkali metal hydroxide or alkaline earth metal hydroxide. 14.12.77 as 150139 (9pp5)

WOOL= ★ D18 61035B/33 ★SU-563-437
Liquid processing of pelts - includes subjecting to action of electrostatic field to prevent hair sticking etc.
WOOL IND RES INST 28.11.75-SU-194463
(26.08.77) C14b-15

Pelt processing comprises treating the hair with a mordant soln. and drying; then moistening the flesh side of the hide and cleaning. This process is improved by placing the pelt, after the cleaning, in an electrostatic field; pref. $5x10^5$-$8 x 10^5$ V/m. The physico-mechanical properties of the hairs are improved; their mutual adherence to eliminated. The technology of the process is simple. The wastes are reduced.

Smirnova V.F. Mertvishchev Y.U., Molokov V.I et al
Bul. 24/30.6.77 28.11.75 as 194463 (2pp70)

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

COMB- D21 00153W/01 =DS 2435-578
Sulphur, bismuth citrate and triethanolamine compsn. - for dyeing human hair dark shades
COMBE INC 29.08.73-US-392529
*A96 E24 +P34 (09.08.79) *BE-818-255 A61k-07/13*

Hair dye contains sulphur, the water soluble reaction prod. of bismuth citrate and triethanolamine and usual additives. The dye pref. contains the reaction prod. of 0.25 pts. bismuth citrate with 3 pts. triethanolamine, with 0.25 pts. sulphur in water. The dye dyes human hair brown. 24. 7. 74 as 435578 (3pp068)

BUER- D21 06251B/04 =DS 2731-520
Non-antiperspirant deodorant - contains macroporous polystyrene-type, ion exchange resin
BUER C H GMBH 12.07.77-DT-731520
*A96 (A13 A91) (09.08.79) *DT2731-520 A61k-07/32*

Deodorant contains as active ingredient up to 20 wt. % (1-5 wt. %) of a macroporous ionexchanger based on polystyrene with a particle size of 10-50µm. The ionexchanger may be acid or basic and may be a sulphonated styrene-divinylbenzene copolymer or a vinylbenzene-trimethylammonium polymer.

The ionexchanger is efficient and since it does not irritate the skin can be used in high concn. 12. 7. 77 as 731520 (4pp068)

HITK ★ D21 60129B/33 ★DT 2820-377
Palladium contg. magnetic alloy - with relatively low melting point, contains nickel and/or cobalt
HITACHI METAL KK 06.02.78-JA-012206
L03 M26 (09.08.79) C22c-19

The alloy contains by wt. $\ngtr$ 79% Co, and/or $\ngtr$ 80% Ni, the remainder being Pd. The pref. alloys are (1) 20-70% Co, balance Pd; or (2) 29-80% Ni, balance Pd. The alloys may also contain, all maxima, 15% Cr, 30% Fe, 20% Cu, 3% Zn, 3% Sn, 20% Pt, 23% Au, and/or 3% Ag.

Used in the mfr. of alloys which have m. pt. $\ngtr$ 1350°C. and which have good corrosion resistance and a magnetic flux density B_{100} of $\geqslant$ 2000 gauss (G) when exposed to an external magnetic field of 100 G. The alloys may also be used in dental prostheses.

These alloys may easily be made in a laboratory due to their low m. pt. as compared with permalloy or Si-steel. 10. 5. 78 as 820377 (12pp1144).

ASAO D21 88592Y/50 =GB 1550-330
Tooth and bone prostheses prodn. - from powdered hydroxy-apatite and metal, ceramic or glass fibres
ASAHI KOGAKU KOGYO 07.06.76-JA-066217
*P32 (15.08.79) *DT2725-665 A61c-13/08*

A prosthetic tooth or bone is produced by introducing $\geqslant$ 1 fibrous material into a mould having the shape corresp. to the prod., introducing a particulate material comprising $\geqslant$50 wt. % of $Ca_{10}(PO_4)_6(OH)_2$ and 0-50 wt. % of $\geqslant$ 1 additive around the fibrous material in the mould to form an assembly. The assembly is then pre-formed in the mould, then sintered under heat.

The fibrous material are fibres, fine filaments or whiskers of metals, ceramics or glass. The additive is $Ca_3(PO_4)_2$, $AlPO_4$, Al_2O_3, AlF_3, SiO_2, $Mg(PO_4)_2$ or the fluorides, chlorides or oxides of Li, Na, K, Mg or Ca. The sintering process is performed at 800-1500°C for 15 mins.-40 hrs.

The prosthetic teeth or bones produced in the process have superior addinity for the living body and high mechanical strength. 3.6.77 as 023593 (3pp931)

SUMO D21 46147A/26 =GB 1550-575
Bone implants or teeth roots for humans - using a ceramic core covered by a mixt. of ceramic and hydroxy:apatite
SUMITOMO CHEMICAL KK 16.12.76-JA-151725
*L02 P32 (D22) (15.08.79) *DT2755-751 A61f-01 +C04b-35/84*

A prosthetic implant is prepd. by thermally spraying a layer of a mixt. of a ceramic and hydroxyapatite onto a ceramic substrate, the thermal spraying being carried out using a plasma spray method.

Pref. the hydroxyapatite constitutes 30-70 wt.% of the mixt. used. The ceramic of the substrate formed is substantially aluminium oxide, or Al_2O_3, TiO_2, ZrO_2, SiO_2, SnO_2, P_2O_5, CaO, B_2O_3 or a mixt. of $\geqslant$ 2 of such cpds. The hydroxyapatite used can be prepd. synthetically, or obtd. from organisms as bio-hydroxyapatite.

The prosthetic implant is esp. used for bones, joints or tooth roots, and has sufficient mechanical strength, and excellent compatability with living tissues. 15.12.77 as 052243 (4pp931)

LOGA- ★ D21 60235B/33 ★GB 2013-492
Non-foaming emollient for shaving - contg. silicone fluids, isopropyl myristate and azulene
LOGAN SRL 27.06.78-IT-025022 (06.02.78-IT-020036)
A96 E17 (A26) (15.08.79) A61k-07/48

A liq. emollient for shaving contains $\geqslant$2 silicone fluids having viscosities in the range 5-5,000 centistokes, the viscosity of the mixt. being 110±10 centistokes, and 20-30% isopropyl myristate and 0.05-0.5% azulene. The mixt. is applied to the cutting edge of the dry razor, which is then used on previously wetted skin.

Time consuming treatment of the skin with, e.g. shaving foams, is not necessary. The skin surface is not obscured, so cutting scars, warts etc. can be avoided. The blade can be rinsed to remove hairs without the need to reapply the compsn. which is sticky and hydrophobic. 5.1.79 as 000412 (4pp955)

NEOS- ★ D21 60531B/33 ★J5 4084-037
Chapped hands preventive agent - for treating chapping caused by grinding operations etc., contg. neutralised salts of various acids
NEOS KK 16.12.77-JA-152026
E37 (E12) (04.07.79) A61k-07/40

Compsn. for preventing chapped hands of shearing and grinnding work use contains $\geqslant$ 1 neutralised salt of the acids selected from phosphoric acid, boric acid, silicic acid and mono- or di-carboxylic acid and if necessary, polyhydric alcohol.

Chapping of hands in this context is caused from (a) high pH of the grinding agent, (b) staining components and the sludge brought in with oil, etc. (c) microbes grown in the agent, the sludge, etc. and their metabolic products, and (d) the antiseptic used for suppressing the growth of microbes. By wiping hands with the specific dilute soln. during shearing and grinding work, chapping of hands can be prevented and the soln. does not give harmful effects (e. g. rust, corrosion, etc.) on the material to be treated. 16. 12. 77 as 152026 (3pp5)

KAWA- D21 67647X/36 =J7 9020-497
Chlorohydroxy-aluminium allantoinate prodn. - from aluminium alcoholate, allantoin and aluminium chloride
KAWAKEN FINE CHEM CO 16.01.75-JA-006459
*B03 E12 (D22) (23.07.79) *J51082-713 C07d-233/88*

Chlorohydroxy aluminium allanoinate (ALCA) is prepd. by adding aluminium alcoholate to an aq. soln. of allantoin and aluminium chloride. ALCA is useful in cosmetics and medicines, due to its deodorant action, mild astringent property, and dissolution ability on keratin as well as bacteriostatic activity with low toxicity to human bodies.

In an example, anhydrous aluminium chloride (4.4 g.) and allantoin (15.8 g.) are added to water (200 ml), and the mixt. is heated at 90°C. To this mixt. is added melted aluminium isopropylate (34 g.) over a period of 20 mins with stirring. The soln. is refluxed for one hour to give a clear soln., then filtered. The filtrate is concd. under reduced pressure and dried to give a solid. The solid is crushed to give a white powder (31 g.). Elemental analysis gave the emp. $C_4H_5N_4O_3Al(OH)_4Cl$. Yield 98.5%. 16.1.75 as 006459 C07d-233/88 (23.7.79) KAWAKEN FINE CHEM (2pp)(J51082713)

RYBA/ ★ D21 61009B/33 ★SU-549-150

Dental filling resin compsn. - contg. bisphenol A and low molecular aliphatic epoxide resins, bactericide, hardener and filler

RYBAKOV A I 14.09.67-SU-185724

A96 (A21) (18.05.77) A61k-05/06

The compsn used in stomatology, as tooth filling comprises (in wt.%): epoxy-bisphenol A resin (I), 38.38-46.67; low molecular aliphatic epoxide resin (II), e.g. glycidol, monoethylene-glycol stearate ester (III) 19.19-11.72; bactericidal agent, e.g. decamine, 1.91-4.0, hardener, e.g. 1-β-amino-ethyl-2-alkyl-imidazoline 21.38-5.86 and X-ray contrast medium, e.g. barium sulphate, as filler is the rest.

The compsn. has improved plasticity and improved hardening characteristics in the canal of the tooth. Rybakov A.I., Blyakhman E.M., Ivanov V.S., Bul. 9/5.3.77 14.9.67 as 185724 (2pp938)

HENK D21 48185A/27 =US 4162-893

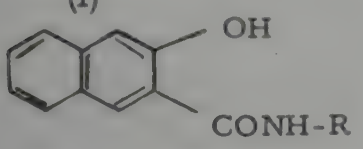
Dyeing keratin materials, esp. hair, with developed dyes - using N-aryl-2-hydroxy-naphthalene-3-carboxamide as coupling component

HENKEL KG AUF AKTIEN (CIBA) 27.12.76-CH-016349

*E21 (31.07.79) *DT2757-866 A61k-07/13*

Human hair is dyed with developing dyes by applying an effective amt. of aq. solns. of diazo salts and coupling components to the hair at 15-40°C. Diazo salts and coupling components are applied either successively in any desired sequence, or simultaneously.

(I)



The coupling component is a 2-hydroxy-naphthalene 3-carboxylic acid amide of formula (I), such that R is substd.- or unsubstd. aryl gp. Pref. R is Ph, alpha- or beta-naphthyl, unsub-std. by lower alkyl, lower alkoxy, halogen or nitro gps., or their mixts., or substd. by Ph which is unsubstd. or substd. by lower alkyl, lower alkoxy, halogen or nitro gps., or their mixts., or substd. by a biphenyl cpd.

The compsns. are esp. suitable for shading or dyeing; and also for overdyeing human hair. Dyes display fastness to washing, cold setting, rubbing, light and perspiration, possiblity of turning dye hair blonde, absorption of the components w.r.t. damaged hair and behavious w.r.t. permanent waving. 21.12.77 as 862696 (7pp931)

ERIC- ★ D21 61486B/33 ★US 4163-004

Improving inorganic fillers for direct dental filling materials - by treatment with tetra(alkenyloxy) titanium di dialkyl) phosphite, then heat treatment

ERICKSON W A & CO 17.06.77-US-807555

A96 E11 (31.07.79) C08k-09/04

The bonding props. of a finely divided inorganic filler (I) to an active polyfunctional polymerisable monomer (II) (possessing $\nless 2$ acrylic end grps.) are improved by: (a) treatment of (I) with a soln. of a tetra(alkenyloxy) Ti di(di-alkyl)phosphite of formula $(R_1O)_4$-Ti-$[P(OH)(OR_2)_2]_2$ (III), (b) excess soln. is removed; and (c) the filler is heated at 110-130°.

In (III) R_1 = -A$(XB)_n$; A=3-8C opt. branched di- or tri-valent hydrocarbon; X = O or OCO; B = opt. branched hydrocarbon contg. $\nless 1$ terminal double bond, and 3-8C when X is O, and 2-7C when X is OCO; n = 1 or 2; R_2 = 6-16C opt. branched alkyl).

Treatment deactivates the known titanate treated filler, thus improving the shelf life of dental filling pastes contg. (I), (II), and a free radical generating catalyst. (I) is used with known (II) to produce direct dental filling materials. 17.6.77 as 807555 (4pp478)

COOQ ★ D21 61493B/33 ★US 4163-022

Carbamyl and thiocarbamyl-guanidine derivs. - useful as broad spectrum antibacterials, esp. for topical inhibition dental plaque

COOPER LABS INC 07.08.78-US-931511 (03.02.75-US-546549)

B05 (31.07.79) A61k-31/17 C07c-127/15

Carbamyl-and thiocarbamyl-guanidine derivs. of formula (I) Z-B-Y-B_1-Z (I) and their addn. salts with 0.33, 0.5, 0.66, 1 and 2 mols of inorganic or organic acids are new.

Y is 2-12C alkylene, 5-12C cycloalkylene, (5-12C)-cycloalkylenebis-(1-6C)alkyl, 6-12C arylene, (1-6C)alkyl-arylene, (7-12C)arylene-(1-6C)alkyl or (8-12C)arylenebis-(1-6C)alkyl; B is carbamylguanidino or thiocarbamylguanidino; B_1 is a B gp. or biguanidino, except that B_1 is only biguandino only when B is carbamylguanidino bonded to Y through the guanidino; Z is 4-12C dialkylaminoalkyl, (1-10C)alkoxy-(2-10C)alkyl contg. 3-14C, (1-10C)alkylthio-(2-10C)alkyl contg. 3-14C, PhO-(2-6C)alkyl, PhS-(2-6C) alkyl, 7-14C arylcycloalkyl or 6-14C aryl or aralkyl substd. by $\geqslant 1$ PhO, NO_2, CN, 2-6C acyl, PhCO, alkoxycarbonyl or di-(2-12C)alkylamino.

Provisos are that (a) when Y is 2-12C alkylene and B and B_1 are carbamylguanidino, then Z may also be 7-14C aralkyl opt. substd. by $\geqslant 1$ CF_3, 1-6C alkyl, 1-6C alkoxy, CF_3O, 1-6C alkylthio, halogen, 1-6C alkylsulphonyl, fluorosulphonyl or alkylsulphinyl, or 6-14C aryl substd. by $\geqslant 1$ fluorosulphonyl or alkylsulphinyl; and (b) when B is thiocarbamylguanidino or B_1 is thiocarbamylguanidino or biguanidino, then Z may also be 1-12C alkyl, 3-12C alkenyl, 3-12C alkynyl, 3-12C cycloalkyl, 4-12C cycloalkyl-alkyl, 6-14C aryl, 7-14C aralkyl, or 6-14C aryl or aralkyl substd. by $\geqslant 1$ CF_3, 1-6C alkyl, 1-6C alkoxy, CF_3O, 1-6C alkylthio, halogen or 1-6C alkylsulphonyl).

(I) are esp. effective against micro-organisms that cause dental plaque and they are able to bind to dental hydroxyapatite through chelation with the surface Ca ions of the hydroxyapatite crystal lattice of teeth, so that they inhibit plaque formation. (I) are non-toxic to mammals on oral admin. and are essentially tasteless. Used at 0.005-10% concn. in topical prepns. 7.8.78 as 931511 Div. ex. 4002962 C.i.p. 4115447; 4155448 (+ 7.1.77 (2)-US-757577, 757600)(12pp1248)

PART- D21 77538Y/44 =US 4163-049

Sunburn treatment compsn. for oral or topical use - contg. tinctures of bee and of marigold

ETUD PARTICIP OHF 06.05.76-FR-013599

*B04 (31.07.79) *BE-854-037 A61k-07/42 A61k-35/64*

Compsn. active against erythema solare comprises a synergistic mixt. of tinctures of Apis mellifica at a dilution of 4°CH to 15°CH (pref. 7°CH) and Calendula at a dilution of from a third decimal to 9°CH(pref. 4°). Pref. a glossette contains dilutions of Apis mellifica and Calendula in equal pts. wt. in an excipient. Pref. the glossettes are used in prophylactic treatment of erythema solare.

The compsn. may also be used in the form of a cream or ointment for cutaneous treatments. Other oral forms are lozenges, pills, drops, pellets, syrup or ampoules. 6.5.77 as 794588 (5pp924)

PLAS- ★ D21 61519B/33 ★US 4163-092

Cationic hydrogels based on hydroxyalkyl acrylate and methacrylate - prodn. are useful as anion exchangers and for combining with, e.g. biologically active materials to provide slow material release

PLASTOMEDICAL SCI 18.08.77-US-825521 (11.02.75-US-549096)

A14 B07 C03 (A91 A96) (31.07.79) C08f-220/06

Cationic, polymeric hydrogels are produced by simultaneously polymerising and crosslinking, in the presence of a free radical polymerisation catalyst in an amt. of 0.05-4 wt.%, based on the total wt. of monomers, and at 20-125°C, a mixture of monomers.

The monomer mixt. comprises (a) 40-95 wt.% of an acrylic monomer selected from glyceryl monoacrylates and monomethacrylates and acrylic cpds. of formula $CH_2=C(R)-CO\{O-CH_2-CH(R')\}_n OH$ (where R and R' are each H or 1-6C alkyl; and n is 1-50); (b) 50-0.05 wt.% of a quaternary ammonium cpd. of formula $CH_2=C(R)-CO-O-CH_2-CH(OH)-CH_2-\overset{+}{N}(R^2)(R^3)(R^4)Y^-$ (where R is H or CH_3; R^{2-4} are each (ar)alkyl or phenyl; and Y is an anion); (c) 0.2-12 wt.% of a crosslinking agent of formula $CH_2-C(R)-COO-A-OOC-C(R)=CH_2$ (where R is H or 1-4C alkyl; and A is 2-10C alkylene or a polyglycol other gp. of formula $\{CH_2-CH(R')-O\}_n CH_2-CH(R')-$, R' being H or (m)ethyl and n being 1-20), and (d) 0-50 wt.% of other monoethylenically unsatd. cpds. selected from acrylamides, methacrylamides, alkyl-acrylates and-methacrylates, N-vinyl lactams, N-vinyl succinimide, N-vinyl diglycoylimide, N-vinyl glutarimide, N-vinyl-3-morpholinone, N-vinyl-5-methyl-3-morpholinone and N-vinyl imidazole. Provisos are that (a) $\geq$ (d) and (a) + (d) = 40-95 wt.% and when an N-vinyl cpd. is used in (d) it is used in an amt. of $<$20 wt.%.

The hydrogels have good water permeability and mechanical properties, and are useful as anion exchangers and for combining with e.g. agricultural chemicals, pharmaceuticals and cosmetics. US 4060678 described a similar hydrogel prodn. process using a different quaternary ammonium cpd. (b). 18. 8. 77 as 825521 Div. ex4060678 (10pp990)

NATR D21 56696B/31 =WP 7900-521
Hardenable carboxylate cement compsn. - comprising carboxylic acid polymer, ion-leachable (alumino)silicate, and metal salt to accelerate hardening
NATIONAL RES DEV CORP (CRIS/ CRIS/) 17.01.78-GB-001833
*A14 L02 M22 +P34 (A81 A92 A96 D22) (09.08.79) *GB2012-773 A61k-05 +A61l-15/06 C04b-13/21 C04b-19 C08l-33/02*
D/S: N(JA, US) + E(CH, DT, FR, GB, SW).

A hardenable compsn. comprises (a) (a hydrolysable precursor of) a poly(carboxylic acid); (b) a particulate ion-leachable (alumino)silicate reactable with (a) in the presence of water to set to a hardened compsn.; and (c) a metal salt which accelerates the setting of the compsn. Pref. the compsn. also includes a complexing agent soluble in an aq. soln. of (a).

Due to the presence of (c) the compsn. has a much faster setting time compared with otherwise similar compsns. disclosed in GB1422337.

The compsns. find use (1) in dentistry; (2) to coat bandage fabrics to give prods. useful in surgical and splinting applications; (3) in forestry to repair and support broken branches; (4) as modelling materials; (5) in building industry as surface coatings, flooring materials, speciality cements, including groutings, panellings, shuttering and adhesives; (6) to seal exposed and hazardous asbestos surfaces and claddings; (7) as foundry sand binders which give good green strength, yet which are readily friable and recyclable after investment; and (8) as moulds for ceramic articles.
17.1.79 as GB0014 (35pp914).
(E) ISR: GB1495255.

See Also

D13 US 4163010

D22: BANDAGES; DRESSINGS

JACO/ ★ D22 59984B/33 ★DL -136-214
Sterilisation of heat-sensitive goods - by treating with glutaraldehyde-water vapour mixt. in a sealed chamber
JACOBI H D 03.05.78-DL-205159
E17 P34 (27.06.79) A61l-13

In a process for chemical cold sterilisation, the goods to be sterilised are treated in a closed vessel at atmospheric pressure with a satd. glutaraldehyde-water vapour mixt. at 40-70°C, esp. 50-60°C for 24-5 hours.

Process allows sterilisation of heat-sensitive goods at atmospheric pressure using a non-toxic and non-hazardous sterilisation agent. Very small amts. of glutaraldehyde are used so that the process is economical. Pressure vessels are not necessary and personnel are not placed at risk. No qualitative deterioration of the goods takes place during sterilisation. 3. 5. 78 as 205159 (6pp513)

JACO/ ★ D22 59985B/33 ★DL -136-215
Sterilisation of heat-sensitive goods - by treatment with glutaraldehyde vapour in a sealed chamber
JACOBI H D 03.05.78-DL-205160
E17 P34 (27.06.79) A61l-13

In a process for cold sterilisation, the material to be sterilised is sealed into a sterilisation chamber. Aq. glutaraldehyde soln. is then sprayed onto the heated walls of the chamber in an amt. sufficient to cause saturation of the chamber. After sterilisation has been achieved, residual glutarladehyde vapour is removed from the chamber by sweeping with air or by applying a vacuum before opening the chamber. Sterilisation is pref. carried out with the chamber heated to 40-70°C, esp. 50-60°C, for 24-5 hrs., esp. 15-8 hours.

Process allows sterilisation of heat-sensitive goods at atmospheric pressure using a non-toxic and non-hazardous sterilisation agent. Very small amts. of glutaraldehyde are used so that the process is economical. Pressure vessels are not necessary and personnel are not placed at risk. 3. 5. 78 as 205160 (6pp513)

MEIJ D22 72652U/48 =DS 2320-415
2,3,3-triiodoallyl alcohol compsns - bactericidal and fungicidal
MEIJI SEIKA KK 26.04.72-JA-041351
*C03 E17 F09 P34 (09.08.79) *DT2320-415 A61l-13*

2,3,3-Triiodoallyl alcohol of formula $I_2C=CICH_2OH$ is added to aq. cellulose, wood pulp or paper suspension to prevent the development of fungi which lead to slime. The process is applicable to the paper timber and wood products industries and avoids the use of toxic mercury or tin cpds. 21. 4. 73 as 320415 (4pp047)

SACH- D22 07660W/05 =DS 2329-630
Enhancement of sterilising effect of anodic oxidation - on aqueous flows by prior introduction of reducing agent
SACHS SYSTEMTECHNIK 09.06.73-DT-329630
*J03 P34 (09.08.79) *DT2329-630 A61l-01*

The sterilisation of aq. liqs. by anodic oxidation is carried out in an electrolytic cell with a cathode and an anode, which are separated by a diaphragm. Before the treatment in the cell, the liq. is exposed to a reducing a action. This can be done by passing the liq. through the cathode space of an electrolytic cell.

This raises the sterilisation efficiency of the anodic oxidation and requires only smaller appts. and shorter treatment times. No agents need be added and the capital cost for the plant is lessened. 9. 6. 73 as 329630 (3pp39)

UNVO D22 26320X/14 =DS 2542-937
Solid perfumed compsns. with regulatable evapn. rates - contain a diethylene glycol mono-alkyl ether
UOP INC 02.10.74-US-511157
*E17 +P34 (09.08.79) *US3945-950 A61l-09/04*

Solid perfume consists of a mixt. of gelation agent, inert liq., perfume and as volatile component chiefly a mono 1-4C alkyl ether of diethylene glycol. The perfume block is useful as air freshener in rooms. 26. 9. 75 as 542937 (3pp)

PROC D22 92423X/50 =DS 2623-905
Two ply tissue paper has plies separated in distinct zones - to provide high bulk, low density and good absorbency
PROCTER & GAMBLE CO 30.05.75-US-582521
*F09 P73 +P72 (09.08.79) *BE-842-308 D21h-01/02 D21h-05/14*

A soft, voluminous and absorbent sheet of paper for use as towel or sanitary prods. is made of a material which has a basic wt. of 8-65g/m^2 before the crinkling operation. The paper has a structure with $\geq$2 layers of superimposed fibres. At least one of these layers has small separate areas at a rate of 15-560 areas per cm^2 which have been shifted at right angles to the plane of the sheet. These separate areas have a lower density than the rest.

This produces a material of very low density but excellent absorbance and feel. 28. 5. 76 as 623905 (27pp39)

GREO D22 70404X/37 =DS 2626-565
Low penetration barrier coating for porous surfaces - comprises a thermosetting resin and a hydroxylic material
GREFCO INC 20.06.75-US-588816
*A93 E14 L02 P73 +Q43 (A25) (09.08.79) *US3978-264 B32b-27/42 C08j-05/12*

Laminates consists of a polymeric foam layer and a porous substrate with a barrier layer provided between them on the surface of the porous substrate. This layer consists of an OH contg. cpd. chosen from starch, grain flour or their mixt. and a thermosetting resin curable by Me gps.

The thermosetting resin is pref. a urea/HCOH, phenol/HCOH, melamine/HCOH resin, a mixt. of such resins or a copolymer of such resins; 1 pt. resin is pref. present per 0.3-30 pts. OH contg. cpds. The barrier layer pref. also contains 0.2-5 wt. % of a biocide.

Thick and uniform foam layers can be produced on porous substrates at low cost. 14.6.76 as 626565 (5pp260)

DOWO D22 12650A/07 =DS 2735-453
Blood storage systems - contg. hardenable silicone rubber compounded with calcium hydroxide to absorb carbon di:oxide and retard blood decomposition
DOW CORNING CORP 05.08.76-US-712106
*A96 E33 +P34 (A26) (09.08.79) *DT2735-453 A01n-01 A61k-35/14*

Whole blood is stored in a sack made from a hardenable silicon rubber which has been treated with 5-30 pts. wt. $Ca(OH)_2$ per 100 pts. wt. silicon rubber. The blood can be stored for $\geqslant$42 days. 5.8.77 as 735453 (4pp068)

BIOM- D22 22267B/12 =DS 2741-317
Anodic oxidn. sterilisation of fluids - after increasing conductivity by carbon di:oxide introduction
INST BIOMED TECHNIK 14.09.77-DT-741317
*P34 (09.08.79) *DT2741-317 A61l-01*

Liqs. of very low conductivity, e.g. water for use in medicine, are sterilised by anodic oxidn. after passing in carbon dioxide to improve conductivity. 14.9.77 as 741317 (2pp068)

AIRL ★ D22 60144B/33 ★DT 2902-173
Deodorant compsn. or plant for animal waste fertilisers - contains hydrogen peroxide, aromatic terpene and emulsifier, e.g. polyoxyethylene
AIR LIQUIDE L' 03.02.78-FR-003000
A97 P34 (09.08.79) A61l-09/ C05f-03*

Deodorant mixt. consists of an O-carrier cpd., (I), in combination with a synergetically acting cpd., (II), which masks bad smells, and of a surface active biologically degradable emulsifier (III). Pref. (I) is H_2O_2; (II) is an aromatic terpene cpd. or a terpene mixt., e.g. a pine-needle extract or a sesquiterpene, and (III) is a polyoxyethylene.

The mixt. is used for treating organic or plant waste, e.g. beet bagasse, or waste prods. generating bad smells of N- and S-contg. derivs., e.g. H_2S, during storage, spreading as fertilisers or assimilation by soil, esp. for treating liq. manure or farm animal dung, e.g. from pigs, calves, poultry, or other excrements. H_2O_2 oxidises H_2S to sulphates or colloidal S. (I) and (II) act synergetically. 20.1.79 as 902173 (17pp200).

UNIC- ★ D22 60198B/33 ★DT 2904-634
Diaper or sanitary towel comprising absorbent plies - with pulverulent polymer top layer which retains discharged matter by expanding and gelling to stop seepage through envelope
UNI-CHARM CORP 07.02.78-JA-012582
A96 P21 P32 (09.08.79) A41b-13/02 A61f-13/18

Device for absorbing matter excreted by a person, e.g. a diaper or catamenic pad, comprises a multiply absorbent stack of loose or bonded-together paper fabric or particulate cellulose on top of a water-proof substrate which is also impermeable to the excreted substance(s). Absorbent plies and substrate are enveloped in a mantle which is permeable to the excreted matter. At least its shorter sides are welded together. At least 1 absorbent ply is topped by a layer of a polymeric powder (about 10-45g/m^2).

This layer is embossed and has a guide hole. The polymer is practically water-insoluble at room temp. and adapted to absorb at least 10 times (by wt.) excreted matter as its own wt. Absorption causes it to gel and swell, thus preventing the absorbate to seep away even under pressure. Graft copolymers of various acrylic monomers with starch, cellulose derivs. or PVA are suitable. 7.2.79 as 904634 (22pp267).

UNIL ★ D22 60222B/33 ★GB 1550-614
Flexible resilient absorbent material based on polyurethane foam - contg. crosslinked water swellable starch deriv.
UNILEVER LTD 27.06.75-GB-027390
A96 (A11 A25) (15.08.79) C08l-75/04

The composite material has a density 20-50 kg/m^3 and contains 25-50% of the crosslinked starch. It can be prepd. by reacting a liq. polyurethane prepolymer with water in the presence of the crosslinked starch or by reacting a polyol, isocyanate and water in a one-shot process, the crosslinked starch being suspended in the reactants.

Used for sanitary towels, tampons and napkins. The foam makes up aq. body fluids quickly whilst the crosslinked starch has a greater capacity to retain fluid under pressure. 28.6.76 (2pp1302)

DAIS- ★ D22 60298B/33 ★J5 4082-892
Cotton with good water retention, for toiletry use, etc. - comprises absorbent cotton and opt. synthetic fibre, coated with polyamide epichlorohydrin resin or di:aldehyde starch
DAISAN GOMEI KAISHA 14.12.77-JA-150905
A96 F07 P28 P32 (02.07.79) A47k-07 A61f-13/20

The cotton comprises a belt consisting of absorbent cotton opt. mixed with synthetic fibre, such as rayon or staple fibre. The cotton belt has a coating obtd. by treating it with a soln. contg. 0.5-3% water-soluble polyamide-epichlorohydrin resin or 0.5-3% dialdehyde starch or 0.5-2% PVA soln. contg. the water-soluble polyamide-epichlorohydrin and the dialdehyde starch.

The toilet cotton can be used without napping or fraying. 14.12.77 as 150905 (3pp2)

NIRA ★ D22 60363B/33 ★J5 4083-095
Antithrombotic polyamide prepn. - by reacting quaternary polyamide salt with antithrombotic cpd. having anionic gp. pref. heparin
UNITIKA KK 15.12.77-JA-151532
A96 P32 (A23) (02.07.79) A61f-01 C08g-69/48

Prepn. of antithrombus polyamide comprises reacting polyamide with an oligomer and/or polymer of ethyleneimine to obtain aminated polyamide, quaternizing the aminated polyamide and then reacting the resulting quaternary salt with an antithrombotic cpd. having an anionic gp. (e.g. heparin, chondroitin, homopolymer or copolymer of vinylsulphonic acid, styrenesulphonic acid, etc.) pref. heparin.

Antithrombus property can be imparted to polyamide simply and unexpensively. The resulting antithrombus polyamide is excellent in not only antithrombus property but also strength, mouldability etc. as required as high polymer material for medical use.

The reaction between polyamide and polyethyleneimine is conducted in a solvent at -20-250°C for 10 min-24 hrs., if necessary using a dehydrated condensating agent. Quaternisation of aminated polyamide is conducted using a known quaternising agent, e.g. hydrogen halides or halogenated hydrocarbons, at 0-90°C for 1-24 hrs. The quaternised polyamide is then contacted with an aq. soln. of the quaternised polyamide (pref. at a concn. of 0.01-10 wt.%, more pref. 0.5-5 wt.%) at 10-100°C, pref. 30-90°C. 15.12.77 as 151532 (4pp140)

TEIQ ★ D22 60513B/33 ★J5 4084-004
Wood preservation process - comprises supplying inert gas atmos., fumigating under reduced pressure, then opt. desorbing the fumigant
TEIJIN CHEMICALS KK (HITF) 13.12.77-JA-148748
C03 E16 F09 P63 (E13) (04.07.79) B27k-03/02

The method comprises (a) laying wood material in a closed vessel, (b) replacing the air in the vessel with inert gas, (c) fumigating the wood under reduced pressure and (d) opt. desorbing the fumigant adsorbed on the wood by a combination of treatment under reduced pressure and steam-heating. The treatment stages (b), (c) and (d) give a synergic effect and the wood can be effectively fumigated economically and safely in a short time. By replacing the air in the vessel with inactive gas and effecting the fumigation under reduced pressure, the adsorption of the fumigant on wood material can be decreased and the insecticidal effect is high. Further by desorbing the fumigant by steam-heating under reduced pressure, the fumigant can be desorbed forcibly and the fumigating time can be shortened without giving harmful effect. As fumigant, methyl bromide, chloropicrin, ethylene dibromide, etc. can be used and they are used ca. 200 g on 1 m^3 of the vessel volume. The fumigation is effected under a pressure of ca. 50 Torr for 2 hrs. 13. 12. 77 as 148748 (3pp5)

TEIQ ★ D22 60514B/33 ★J5 4084-005
Wood fumigation - by wetting wood, placing it in closed vessel, fumigating under reduced pressure and opt. desorbing fumigant
TEIJIN CHEMICALS KK (HITF) 13.12.77-JA-148749
C03 E16 F09 P63 (E13) (04.07.79) B27k-03/02

The method comprises (a) wetting the wood, (b) putting it in a closed vessel, (c) fumigating it under reduced pressure and (d) if necessary, desorbing the fumigant adsorbed on it by combining the treatment under reduced pressure and steam-heating.

Water on the pores, in which insect is alive, is removed. The remaining parts are water-sealed and the fumigant rapidly permeates the pores concentrically. The adsorption of fumigant on other parts can be decreased and the adsorbed fumigant can be easily desorbed in a short time without a redn. in the wood quality.

Methyl bromide, chloropicrin, ethylene dibromide, etc. are pref. used as the fumigant, being almost insoluble in water, they are hardly adsorbed on the wet wood. The fumigant is pref. used in an amt. of 75-200 g per m^3 of the vessel volume, and fumigation occurs under a reduced pressure of ca. 50 Torr for 1-4 hours. 13. 12. 77 as 148749 (4pp5)

TEIQ ★ D22 60515B/33 ★J5 4084-006
Wood fumigation method - where fumigant is desorbed from wood by using reduced pressure and steam heating
TEIJIN CHEMICALS KK (HITF) 13.12.77-JA-148750
C03 E19 F09 P63 (E36) (04.07.79) B27k-03/02

In a wood fumigation method the fumigant is desorbed from the wood material, which is previously fumigated using fumigant in high concn., in a closed vessel by combining the treatment under reduced pressure and steam-heating.

Pref. a pre-desorbing treatment is previously applied to the fumigated wood by repeated redn. of pressure and the restoration of pressure to atmospheric pressure in the vessel, to promote the desorption.

As fumigant methyl bromide, chloropicrin, ethylene dibromide, hydrogen phosphide, etc. can be used and usually the fumigation is prcticed under reduced pressure or normal pressure in a vessel using fumigant 200-500 g on 1 m^3 of the vessel volume for 2 hours. After the fumigation remaining gas is discharged to reduce pressure of 50-100 Torr using a vacuum pump and the steam of $>$120C is introduced for 5-20 minutes.

Adsorbed fumigant can be effectively desorbed in a short time without reducing the wood quality. 13. 12. 77 as 148750 (3pp5)

TEIQ ★ D22 60516B/33 ★J5 4084-007
Fumigating wood - involves wetting the surface of the wood and fumigating under reduced pressure combined with steam heating for desorption of fumigant
TEIJIN CHEMICALS KK (HITF) 13.12.77-JA-148751
C03 E16 F09 P63 (E13) (04.07.79) B27k-03/02

Method comprises (a) laying wood in a closed vessel, (b) wetting the surface of the wood either by sprinkling water on it or by immersing it in water, (c) replacing the air in the vessel with inert gas, (d) fumigating under reduced pressure and (e) desorbing the fumigant adsorbed on it by combining the treatment under reduced pressure with steam-heating.

Fumigation and desorption of fumigant can be practiced efficiently in a short time without decreasing wood quality.

The fumigant is permeated concentrically in the pores, in which insects are alive, and the amt. of the fumigant adsorbed on the other parts is decreased. The fumigant may be methyl bromide, chloropicrin, ethylene dibromide, etc. and the fumigation is practiced under a reduced pressure of 30-200 torr using 200-500 g fumigant per m^3 of vessel volume. 13. 12. 77 as 148751 (3pp5)

OHSH- ★ D22 60517B/33 ★J5 4084-008
Bleaching method for wood, board etc. - using soln. contg. hydrogen peroxide and chlorite
OHSHIKA SHINKO KK (ENDO-) 13.12.77-JA-148881
C03 E36 F09 P63 (04.07.79) B27k-05/02

Bleaching of wood, thick board or rectangular timber comprises immersing wood in a bleaching soln. contg. H_2O_2 2-15 wt. % and chlorite 1-13 wt. % (where the chlorite concn. should be lower than H_2O_2 concn.) and heating it under reduced pressure.

Wood can be bleached while keeping good contrast between spring autumn woods and by heating the wood in the bleaching soln. under reduced pressure, the bleaching can be practiced uniformly to as deep as ca. 20 cm. By controlling the bleaching conditions, the degree of contrast, the bleaching degree, the bleaching depth, etc. can be regulated freely. 13. 12. 77 as 148881 (4pp5)

NAKA/ ★ D22 60518B/33 ★J5 4084-009
Colouring of logs - includes masking with perforated polyethylene tape and immersing in water contg. iron or arsenic, followed by drying for several days
NAKAMURA R 14.12.77-JA-150136
A97 C03 F09 P63 (A17) (04.07.79) B27k-05/02

Method comprises (a) cutting raw logs to a desired length, (b) barking them partly so that the cambium is revealed at the barked parts, (c) coating them with polyethylene tape, (d) making holes in the polyethylene tape at the barked parts, (e) immersing them in water contg. iron and arsenic for 20 days, (f) taking them out, (g) flowing water on them, (h) polishing and washing and (i) drying for several days in the shade.

The colouring soln. is impregnated from both ends of the logs and the barked parts. Thus, the wood grain can be clearly revealed and the barked parts are coloured darkly in a circular or oval form.

The impregnation is usually for 50 days for a log of 2 m length, for 60 days for a log of 3 m length, and 70 days for a log of 4 m length, etc. During drying for 5-7 days in the shade, the logs are turned brown, showing good contrast between spring wood and fall wood. 14. 12. 77 as 150136 (3pp5)

KURO/ ★ D22 60529B/33 ★J5 4084-033
Deodorising dead bodies - by synthetic resin soln. contg. perfume
KURODA T 17.12.77-JA-152227
A97 (04.07.79) A01n-01

Deodorisation comprises applying a transparent synthetic resin soln. contg. perfume to the surface of the dead body.

The method prevents generation of bad smells and keeps the body beutiful until cremation, etc.

In an example, 17% acryl resin alkanolamine, 32.6% geraniol-modified ethanol, 0.1% leurylmethacrylate (deodorant), 0.1% of dibutylhydroxytoluene (antiseptic) and 0.2% perfume are mixed. The mixt. is enclosed in a gas cylinder having a spray-nozzle, together with 35% dichlorodifluoromethane and 15% trichloromonofluoromethane. 17. 12. 77 as 152227 (2pp108)

HASH/ ★ D22 60575B/33 ★J5 4084-396
Sanitary napkin for feminine hygiene - having menstrual blood absorbing and capturing layer contg. gums and sodium pectinate
HASHIMOTO J 17.12.77-JA-152143
A96 P32 (05.07.79) A61f-13/18

A sanitary napkin is provided with a menstrual-blood-absorbing- and-capturing layer consisting essentially of tragacanth gum (of pectinase, soluble rubber, cellulose, starch and so on), guayule gum (of galactose and mannose) and sodium pectinate.

The sanitary napkin suitably comprises a laminate of an absorption layer of absorbent cotton, a menstrual-blood-absorpting and-capturing layer of a number of craft papers contg. tragacanth gum, guayule gum, and sodium pectinate, and a second absorption material layer of paper cotton, a water-repellent cover layer of a water-reppellent paper surrounding the laminate with an opening to expose the absorption material, and a coat of an unwoven cloth.

Menstrual blood is absorbed through the unwoven cloth oat and the absorption layer into the blood-capturing layer n which the blood is rendered sticky, and the blood leak- ge is prevented. 17.12.77 as 152143 (3pp30)

NIRA ★ D22 60576B/33 ★ J5 4084-397

Anticoagulative material for artificial heart, kidney etc. - comprising a high mol. material e.g. polymer on which an aminoacid is bound or absorbed

UNITIKA KK 15.12.77-JA-151533

A96 P34 (05.07.79) A61l-17 A61m-01/03 A61m-25 C08f-08/32 C08g-85

Anticoagulative material consists of a high mol. material to which an amino acid is boulo or absorbed. The amino acid is pref. an alpha-amino acid e.g. leucine, phenyl alanine, tyrosine, isoleucine, alanine, valine, serine, threonine, glycine, asparagine, glutamine, arginine, proline or lysine. The high mol. material is e.g. organic such as polyamide, polyester, PVC, polystyrene, polyurethane, polycarbonate, polyacryl amide, polymethacrylate, polyethylene, polypropylene, PVA, silicone resin, cellulose, starch, or natural rubber, or inorganic such as glass, asbestos, mica, or additive carbon.

Amino acid is found to give an excellent anti-blood-coagulation property over long usage, and it is advantageously used in place of a conventional anti-coagulant heparin. The anticoagulative material is used for an artificial heart, kidney, lung, or blood vessel. 15.12.77 as 151533 (5pp30)

NIRA ★ D22 60577B/33 ★ J5 4084-398

Imparting antithrombotic nature to medical material - by reacting poly:amine with reagent contg. amino reactive gps. on the material, and reacting with antithrombotic cpd., esp. heparin

UNITIKA KK 15.12.77-JA-151531

A96 P34 (05.07.79) A61l-17 A61m-01/03 A61m-25 C08g-73/04

Method comprises reacting a reagent, having ≥ 2 functional groups reactive with amino groups, and excess polyamine, on the surface of a solid material to form a film, making the unreacted amino group in the film into a fourth-class chloride, and then reacting the film with an antithrombotic cpd. having an anionic gp.

The polyamine is pref. polyethyleneimine. The solid material is e.g. of glass, natural rubber, cellulose, polystyrene, polyamide, polyester, silicone, polyurethane, PVA or PVC. The reagent is e.g. of glutaric aldehyde, terephthalic aldehyde, isophthalic aldehyde, hexamethylene-di-isocyanate, polyepoxide, anhydride polycarboxylate etc. The chlorination is carried out e.g. using HCl. 15.12.77 as 151531 (4pp30)

NICA ★ D22 60667B/33 ★ J5 4084-863

Deodoriser for treating malodorous polymerising ester(s) - e.g. vinyl acetate or acrylate cpd(s). in gas or liq. phase, contains hydrazine as effective component

NIPPON CARBIDE KOGY KK 19.12.77-JA-151644

A41 E36 (06.07.79) B01d-53/34 C02c-05/02

The deodoriser is useful for acrylates such as methyl acrylate, ethyl acrylate, butyl acrylate, 2-ethyl-hexylacrylate, hydroxyethyl acrylate, etc., methacrylates such as methyl methacrylate, ethyl methacrylate, butyl methacrylate, 2-ethyl-hexyl methacrylate, etc., vinyl esters such as vinyl acetate, vinyl propionate, etc. and polymerising monomers contg. double bonds, such as fumarates, maleates, etc.

When the polymerising esters are in a gas phase, the gas is contacted with the hydrazine aq. soln. in an absorbing tower, and when the esters are in a liq. phase, the hydrazine aq. soln. (pref. 5-25%) is added to the liq. and the mixt. is kept at 40-60°C. 19.12.77 as 151644 (2pp55)

SHIO/ ★ D22 60753B/33 ★ J5 4085-182

Foam deodorising appts. - comprising tower units contg. defoaming device

SHIOTA T 20.12.77-JA-154845

(06.07.79) B01d-53/18

The horizontally set foaming tower unit comprises a gas inlet opening in the neighbourhood of the bottom ≥ 1 shelf having a large number of holes of 2-6 mm dia. disposed over the gas inlet, and a defoaming appts. including a cylindrical outer cylinder having at least one foam inlet in the upper side, a gas channel pipe disposed through the central part of the cylinder, and a tail pipe for returning a chemical liquid.

The two or more foaming tower units are horizontally disposed adjacent to connect a gas outlet of the front tower unit with a gas inlet of the back tower unit so as to define the deodorizing apparatus. Then, a blower is connected to the gas inlet of the front unit or the gas discharge pipe of the last unit.

The foaming stages are unified, so that the number of stages may be easily changed in response to the conc. of odorous materials, and the mounting space and area may be reduced considerably. The gas in foams may be efficiently deodorized in an aq. soln. contg. a surfactant. 20.12.77 as 154845 (7pp35)

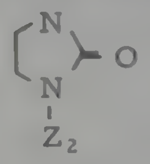
PFIZ D22 14581Y/09 #J7 9020-517

(6)-Acylamino-(3)-tetrazolyl-penams useful as antibacterials - with alpha substd. (4)-hydroxyphenyllyylll acetamido acyl gp.

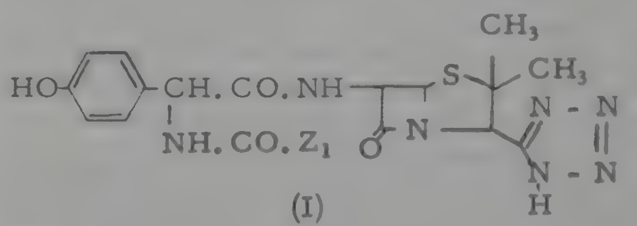
PFIZER INC 16.04.76-US-677725

*B02 C02 (23.07.79) *BE-845-520 A61k-31/43 C07d-499/28 C07d-519 + C07d-471/04*

Penicillin derivs. of formula (I) and salts are new: (Z_1 is 4-hydroxy-1,5-naphthyrid-3-yl or the gp.



where Z_2=H, 2-4C alkanoyl or 1-3C alkylsulphonyl). They are prepd. e.g. by acylating the corresp. 6-amino cpds. (II) with conventional reactive acid derivs.



(I)

(I) are antibacterials, more active than other cpds. of similar structure, and useful in human or veterinary medicine; as disinfectants; for water treatment; preserving wood and paper etc.

A specifically claimed cpd., 6-(D-2-[4-hydroxy-1,5-naphthyridin-3-carboxyamido]-2-[4-hydroxyphenyl)acetamido)-2,2-dimethyl-3-(5-tetrazolyl)penam was prepd. from (II) and 4-hydroxy-1,5-naphthyridine-3-carboxylic acid (as its mixed anhydride) with ethyl chloroformate. 24.8.76 as 101034 C07d-519/00, 499/28, 471/04, A61k-31/43 (23.7.79) PFIZER INC (14pp)(J53028189)

IRCE ★ D22 60967B/33 ★ NL 7900-873

Prepn. of 2-di:chlorobenzyl-6-nitro-4-tert.-butyl phenol cpds. - with bacteriostatic activity, from 4-tert.-butyl-phenol

INST RECH CHIM BIOL APPL 02.02.79-NL-000873 (31.08.67-GB-039816)

B05 E14 P34 (31.07.79) A61k-31/06 A61l-13 C07c-79/26

Prepn. of 2-R-6-nitre-4-t-butylphenols (I) (where R is 3,4- or 2,4- dichlorobenzyl) comprises reacting 4-t-butylphenol with the corresp. dichlorobenzyl chloride (RCl) in the presence of $ZnCl_2$, and reacting the resulting 2-R-4-t-butylphenol with HNO_3 in glacial acetic acid.

Cpds. (I) are bacteriostatic agents with low toxicity, they are esp. useful as antiseptics for external use. 2.2.79 as 000873 Div ex 29.8.68-012302 (4pp367)

URAL= ★ D22 60992B/33 ★ SU -544-433

Aerosol air deodorant compsn. of birch odour - contg. herb extracts, chlorophyll, carotene, glycerol, propellant and ethanol, used in bathrooms and lavatories

URALS CHEM IND RES 27.06.75-SU-152654

P34 (17.02.77) A61l-09

The air-freshening compsn. (I) for aerosol use contains (wt.%): the carbonic acid extracts of, sweet clover 0.001-0.002, hops. 0.025, camomile 0.015-0.025 and fir 0.25-0.35, and chlorophyll and carotene paste (II) 0.009-0.015, glycerol 0.2-0.4, a mixt. of propellants 75-85 and balance EtOH. (II) has a deodorant action.

(I) is birch-scented, having the authentic odour of a steamed birch broom, and is esp. suitable for use in bathrooms and lavatories, where its smell is compatible with that of such rooms. It does not cause irritation or allergy.

Asanova N.A. Tikhomirova N.N., Kolchanova V.S.
Bul. 4/30.1.77 27.6.75 as 152654 (2pp1360)

DOWO D22 12650A/07 =US 4162-676

Blood storage systems - contg. hardenable silicone rubber compounded with calcium hydroxide to absorb carbon di:oxide and retard blood decomposition

DOW CORNING CORP 05.08.76-US-712106 (04.08.77-US-821668)

*A96 E33 +P34 (A26) (31.07.79) *DT2735-453 A61m-05*

A blood storage system comprises a blood storage container having conventional infusion and transfusion apparatus attached to it, and contg. in the container, a cured silicone rubber having compounded $Ca(OH)_2$.

Pref. the blood storage system contains an artificial blood storage media contained in the storage, contained in heterogeneous admixture with the cured silicone rubber /$Ca(OH)_2$ cpd. The container is fabricated either from glass or a thermoplastic polymer.

The method of storing blood is an efficient way to prolong the useful life of blood, esp. the erythrocytes, since the viability can be enhanced by the removal of CO_2 from the blood. 4.8.77 as 821668 Div. ex 4082509(3pp931)

MUNT ★ D22 61450B/33 ★US 4162-934

Sorption bodies prepd. from asbestos paper - with asbestos fibres broken down by heating without destroying molecular sieves (SW 22.5.78)

MUNTERS C AB 26.10.76-SW-011888

F09 J01 L02 (31.07.79) B01d-53/02 C04b-43/04 D21d-03

A sorption body is made by (a) forming sheets of asbestos paper from asbestos fibre pulp contg. molecular sieves, (b) arranging sheets in contact at spaced points to form transectional channels for media to pass through the body, with sheets supporting each other, (c) heating to 400-500° C to burn off organics, (d) heating to 700-800°C to convert asbestos fibres to a powdery consistency and (e) pptg. a stiffening coating, pref. inorganic, onto the sheets. The molecular sieves are pref. added to the pulp to provide at least 25 wt.% completed paper.

The bodies are useful in regenerative moisture exchangers for drying air or other gases and in ventilation heat exchangers, where moisture and heat are exchanged between inlet and outlet air. Despite the high temps., the molecular sieves retain their moisture absorbing ability. Using suitable sieve porosity, selected gases, e.g. H_2S can be removed from air. 25.10.77 as 845433 (3pp091)

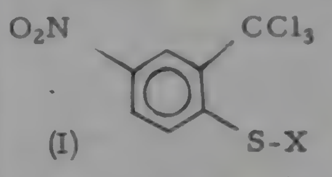
BADI D22 82112A/46 =US 4163-020

2-Tri:chloro:methyl-4-nitro:benzene:sulphenic acid derivs. - with microbicidal, fungicidal, bactericidal and algicidal activities

BASF AG 14.05.77-DT-721917

*A60 C03 E14 P34 (31.07.79) *BE-866-900 C07c-145 C07c-161/02*

2-Trichloromethyl-4-nitrobenzenesulphenic acid derivs. of formula (I) (where X is Cl or CN) are new (I X=Cl) are prepd. e.g. by treating 5-nitrobenzo-1,2-dithio-3-thione with Cl_2 in CCl_4, removing solvent and 5 chloride and extracting with ether.



(I)

(I) have antibacterial antifungal and algicidal activities. They are used to protect glues, plastics, etc. esp. soft PVC, rubber prods. and wood. 24.4.78 as 899523 (5pp964)

EART- D22 72820A/41 #US 4163-038

Insecticidal and fungicidal fumigation without combustion - using indirect heat to volatilise active constituent without thermal decomposition

EARTH CHEM CO 10.12.77-JA-148464 (13.05.77-JA-U61975)

*C03 P14 +P34 (31.07.79) *BE-867-793 A01m-13 A61l-01 +A61l-03*

Fumigating method comprises heating a mixt. of an active ingredient (insecticide, fungicide) and a blowing agent indirectly with an electric heating element or a heating element capable of evolving heat by contact with air to thermally decompose the blowing agent without entailing combustion (esp. a mixt. of Na sulphide and Fe carbide and/or C black), and to volatilise the active ingredient. The blowing agent is decomposable at 70-300°C to give off mainly N_2 gas, and is esp. azodicarbonamide.

Method is fast, safe and free of attendant smoke, and does not involve combustion. 2.3.78 as 882921 (+20.4.77 - JA-045585)(14pp997)

See Also

D13 GB 2013674 D13 J7 9020584 D16 US 4162942
D21 GB 1550575 D21 J7 9020497 D25 US 4162897

D23: OILS; FATS; WAXES

BADI ★ D23 60060B/33 ★DT 2804-597

Beta-damascone and beta-damascenone prepn. - by treating tri:methyl-cyclohexanone or cyclohexenone and di:methyl-di:oxa-heptyne reaction prod. with acid

BASF AG 03.02.78-DT-804597

E15 (D13) (09.08.79) C07c-45 C07c-49/61

2,6,6-Trimethyl-1-crotonyl-cyclohex-1-ene, (β-damascone), (Ia), and 2,6,6-trimethyl-1-crotonyl-cyclohexa-1,3-diene, (β-damascenone), (Ib), are prepd. by (i) reacting 2,6,6-trimethyl-cyclohexanone (IIa) or -cyclohexenone (IIb) with 3,5-dimethyl-4,6-dioxa-hept-1-yne (III) in the presence of a strong base pref. KOH, and (ii) treating the prod., at 45-100°C, with an acid catalyst, (A), having acid strength equal to or higher than that of HCOOH.

(Ia) and (Ib) are perfumes and aroma materials for cosmetic compsns. and foods. The formation of spiro cpds. is suppressed. (Ia) and (Ib) are obtd. in high yields, e.g. 45-55% (Ia) or 94% (Ib), w.r.t. diol prod. of (II) and (III). The base in step (i) may be an alkali metal hydroxide. Hydrocarbons and ethers may be used as solvents. 3.2.78 as 804597 (11pp200).

HASE ★ D23 60585B/33 ★J5 4084-511

Cis- or trans-5-octene-1,3-diol and corresp. 1-acetate - for use as perfume and fragrance donors or modifiers in foods, cosmetics and pharmaceuticals

HASEGAWA KK 19.12.77-JA-151652

B05 E17 (05.07.79) A61k-07/46 C07c-33/02 C07c-69/16

Cis- or trans-5-octene-1,3-diols of formula $C_2H_5\sim CH=CH\sim CH_2-CH(OH)-CH_2-CH_2OR$ (I) are new. In (I), R is H or $-COCH_3$. Cpds. (I; where R = H) are prepd. by reducing a 3-hydroxy-cis- or 3-hydroxy-trans-5-octenoic acid cpd. of formula $C_2H_5\sim CH=CH\sim CH_2-CH(OH)-CH_2-COOR^1$ (II) (R' is 1-5C alkyl). Cpds. (I; where R = $-COCH_3$) are prepd. by acetylating the diol. 19.12.77 as 151652 (11pp75)

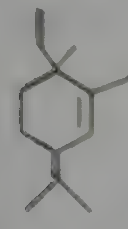
TAKS ★ D23 60606B/33 ★J5 4084-551

Oily substance with herbal fragrance - made by heat dehydrating ortho-menth-8-ene-4 methanol and oxidising the mixed prod. with peracid

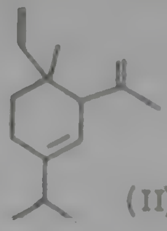
TAKASAGO PERFUMERY KK 19.12.77-JA-151687

E13 (05.07.79) A61k-07/46 C07d-303/04

An oily substance with herbal fragrance, comprises an oxidised product obtd. by treating a product with α-elemene (I) and γ-elemene (II) as the main component, which is obtd. by heat dehydrating β-elemol (o-menth-8-ene-4-methanol) with an acid catalyst with sulphone gp. or a mixt. of α-elemene and γ-elemene, which is separated rom the product with peracid.



(I) (Derwent)



(II) (Derwent)

The cpd. is effective for giving herbal smell to fragr-
nce for cosmetics and flavour for food. The effect is
isplayed when the cpd. is added at 5-10 wt. % as a com-
onent for fragrance with herbal tone. 19. 12. 77 as 151687
3pp57)

ARIT/ D23 13816Y/08 = J7 9020-203

nflammable wax mfr. - from mica fused with waxes by heat and
ontg. optional nonflammable solvents

ARITA T 30.06.75-JA-080105

*(20.07.79) *J52004-509 C08l-91/06*

The waxes when put into a flame and molten hardly burn
or go out when taken away from the flame.

In the prepn. 5 to 300 pts. wt. of mica of average
rain dia. < 200 Å is mixed with 100 wt. pts. of waxes
used with heat in a stirrer or a mixer. Mica dissolved
n non-flammable solvents may be mixed with waxes.
30. 6. 75 as 080105 C08l-91/06 (20. 7. 79) ARITA T (1pp)
(J52004509)

UKAT D23 14419S/08 = J7 9020-481

Heating fluids for fractional distillation - pyrolsis and catalysis

UK ATOMIC ENERGY AUTH 06.08.69-GB-039483

*E19 J04 Q78 (J08) (23.07.79) *DT2038-917*

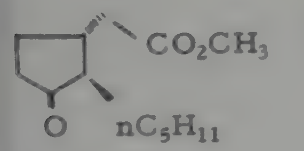
DAAB D23 63957Y/36 = J7 9020-485

repn. of dihydrojasmonic acid methyl and dl jasmonic acid methyl
- used in perfume compsns. as jasmine oil components

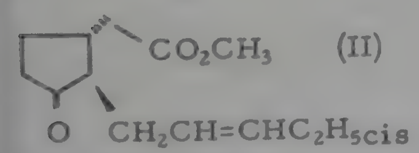
SHIONO KORYO KK 22.01.76-JA-006533

*E15 (23.07.79) *J52089-657 C07c-67/30 C07c-69/95 C07d-311/94 + C25b-03/02*

Prepn. of dihydrojasmonic acid methyl (I) and di-jasmon-
ic acid (II) is claimed.



(I)



(II)

3-Methoxycarbonyl-2-carbonyl norborane is electrolytically oxidised to give exo-2-acetoxy anti-7-methoxycarbon-ylnorbornane, Hydrolysis with sodium methoxide gives 7-methoxycarbonyl-2-hydroxy-norbornane. Oxidn. with chromic acid gives the corresp. 2-carbonyl cpd. and further oxidn. (with per acid e.g. monoperphthalic acid for days) gives 8-meth
oxycarbonyl-3-oxo-2-oxabicyclo [3, 2, 1]-octane. Hydro-
lysis (KOH/CH_3OH) and methylation (e.g. diazo methane)
yield 2-methoxycarbonyl-3-methoxycarbonyl methyl-
cyclopentanol. Treatment with chromic acid yields the
corresp. cpds. pentonone. Th is alkylated with n-pentyl-
bromide or 2-pentyl-bromide to give 2-methoxycarbonyl-
2-pentyl-3-methoxy-carbonyl-methylcyclopentanone (III)
and 2-methoxycarbonyl-2-(2^1-pentynyl)-3-methoxy-car-
bonylmethyl-cyclopentanone (IV).

(III) on decarboxylation (in dimethylsulphoxide at 180
°C) gives (I). (IV) is first cis-hydrogenated (Lindlar cat-
alyst) to give 2-methoxycarbonyl-2-(2^1-pentenyl)-3-meth-
oxycarbonyl-methylcyclopentanone which on decarboxy-
lation gives (II).

Jasmonic acid methyl is an important constituent in
jasmine oil used in perfumes (I) and (II) are obtd. in good
yield. 22. 1. 76 as 006533 C07c-69/95, 69/30, C07d-311/94
C25b-3/02 (23. 7. 79) SHIONO KORYO KK (6pp)(J52089657)

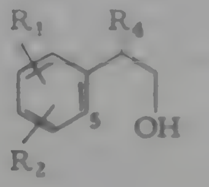
INFL D23 70510W/42 = J7 9020-498

Isochromans prodn from 3-arylpropan-1-ols - by cyclizing with an
acetal in presence of acid catalyst

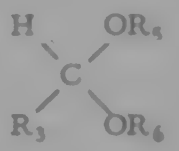
INT FLAVORS & FRAGR INC 01.05.74-US-466068

*E13 (23.07.79) *US3910-964 C07d-311/78*

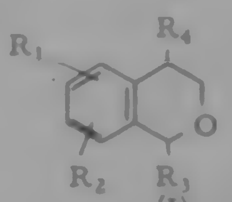
The prepn. of ischromans of formula (I) by reacting an arylakanol (II) with a methylenating-cyclizing agent (III) capable of introducing the $-CR_3-$ at the 5 posn. in the presence of a catalyst then heating, is improved by use of $HCR_3.(OR_5)(OR_6)$ (IIIa) as (III); (II) use of p-toluenesulphon-ic acid or H_3PO_4 as catalyst; (iii) no HCl, corrosive halide salts or chloromethyl methyl ether being present; (v) temp. is 0-200 °C; (vi) acid concn. is 1-100 wt. % on wt. of other components and (vi) ratio (IIIa): (II) is $\geqslant 0.1:1$.



(II)



(IIIa)



(I)

(R_1 and R_2 are each H, lower alkyl or alkoxy or together form a 2, 3-fused benzo-, naphtho or opt. mono- or poly-alkyl substd. cyclopentane or cyclohexano; R_3 and R_4 =H or lower alkyl; R_5 and R_6 = straight chain lower alkyl).

Some (I), e.g. those of US 3360530, have an outstanding musk fragrance and are used as perfumes. Since the reaction mixt. is less corrosive than those of known processes, steel rather than glass-lined reactores may be used. 1. 5. 75 as 052123 (clg. 1. 5. 74-US-466068) C07d-311/78 (23. 7. 79) INT FLAVOURS & FRAGR INC (10pp) (J50149675)

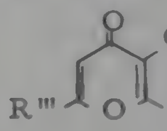
PFIZ D23 00033A/01 = J7 9020-500

Gamma-pyrones prepn. esp. from furfuryl alcohol cpds. - giving prods. useful in perfume and flavouring field

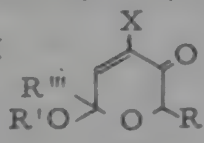
PFIZER INC 09.09.76-US-721885 (02.08.76-US-710901)

*E13 (D13) (23.07.79) *BE-855-965 C07d-309/40*

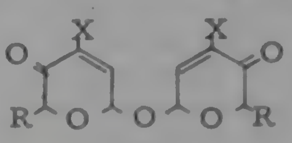
Prepn. of a gamma pyrole of formula (I) comprises heating a 4-halo-dihydropyran of formula (II) or an 6, 6'-oxy-bis [4-halo-2H-pyran-3(6H)-one] of formula (V) in an aq. acid soln. until hydrolysis is practically complete. (where



(I)



(II)



(V)

R is H, 1-4C alkyl, phenyl or benzyl; R' is H, 1-4C alkyl or -COR" where R" is methyl, ethyl or phenyl; R''' is H or 1-4C alkyl and X is Cl or Br). 16. 6. 77 as 071572 (clg. 2. 8. 76, 9. 9. 76-US-710901, 721885) C07d-309/40 (23. 7. 79) PFIZER INC (10pp) (J53018578)

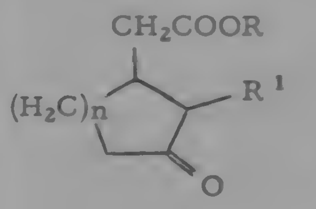
ROUR D23 06772A/04 = US 4163-109

Oxo:cycloalkyl-substd. acetate ester cpds. prodn. - by heating corresp. malonate cpds. with water, useful as perfume components

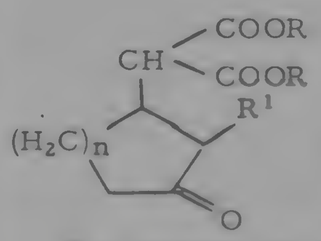
ROURE BERTRAND DUPO 08.11.76-CH-014030 (16.07.76-CH-009136)

*E15 (31.07.79) *DT2732-107 C07c-67/32 C07c-69/74*

A cyclic ketone of formula (I) is prepd. in which R is a 1-3 C alkyl, R^1 is a 3-6C alkyl or alkenyl, and n is 1 or 2. The prepn. is by reacting a cyclic ketone of formula (II) with 1-1.5 molar equivs of water per mole equiv. of cpd. (II) at an elevated temp. to produce a yield of $\geqslant 60\%$ of (I).



(I)



(II)

Pref. a temp. of 200-260 °C is used in the prepn., and 1-1.3 molar equivs. of water per molar equiv. of (II), the process being carried out at ambient pressure. Pref. R^1 is cis-2-n-pentenyl or n-pentyl; R is Me or Et, and n is 1.

The process is esp. used for the prepn. of dihydrometh-yl-jasmonate, which is a partic. valuable odoriferous substance which imparts a jasmin note to odoriferous compsns. 13. 7. 77 as 815213 (3pp931)

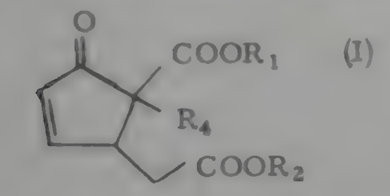
SAKB D23 14430B/08 =US 4163-111

Novel 2-cyclopentenone derivs. - are useful intermediates for jasmone(s), used in perfumery

OTSUKA KAGAKU YAKUHIN 12.08.77-JA-097172 (12.08.77-JA-097171)

*E15 (31.07.79) *DT2824-842 C07c-69/74 + C07c-61/20*

A 2-cyclopentenone deriv. of formula (I) is prepd., in which R_1 and R_2 are lower straight- or branched- chain alkyl, alkenyl or aralkyl gps., and R_4 is 2-pentenyl or 2-pentynyl gps.



(I)

(I) is prepd. by subjecting a 4-acetyl 6-nonynoate deriv. to ring closure, or by hydrolysing the deriv. first to obtain the 4-acetyl 3-formyl 6-nonynoate and then subjecting the cpd. formed to ring closure. Ring closure is effected pref. in the presence of organic acid- organic amine salts such as formic acid-morpholine salt in a solvent such as benzene at 70-100°C for 3-12 hrs.

2-cyclopentenone derivs. are esp. useful as intermediates for the synthesis of jasmonoid cpds. which are important as perfumes. 8. 6. 78 as 913745 (5pp931)

FIRM ★ D23 61537B/33 ★WP 7900-509

Cis-2-methyl:propenyl-4-methyl-tetra:hydro-pyran prepn. - by acid treatment of the trans isomer, useful as perfume component

FIRMENICH SA (SCHU/) 16.01.78-CH-000402

E13 (09.08.79) C07d-309/04

D/S: N(CH, DT, GB, JA, US).

Prepn. of mixts. of the cis and trans isomers of 2-(2-methyl-1-propen-1-yl)-4-methyl-tetrahydropyran (I) contg. ≥ 80-85 wt.% of cis-(I) is carried out by acid treatment of trans-(I) or a cis-trans mixt. contg. ≥ 15-20 wt.% of trans-(I).

The cis isomer is useful as a perfume component ("rose oxide").

The process allows cis-(I) to be produced from mixts. obtained using relatively inexpensive hydrogenated catalysts (Raney Ni or Pd).

14.12.78 as CH0053 (11pp367).

(F) ISR: US3163658; 1 Journal Reference.

D24 : SOAP ; SOAP DETERGENTS

HENK D24 50196T/32 =DS 2100-114

Plastic soap compsns - contg non-ionic detergents and urea

HENKEL KG AUF AKTIEN 02.01.71-DT-100114

*E16 (09.08.79) *DT2100-114 C11d-09*

A soap-contg. detergent, which can be shaped into bars, flakes, needles, etc., comprises 8-60 (10-50) wt. % soap, 15-35 (20-30) wt. % nonionics, which are oily to pasty at normal temp. and 30-60 wt. % urea.

A suitable mixt. comprises 10.4% soap (90% tallow fatty acid and 10% coco fatty acid; 30.2% condensn. prod. ethylene oxide and oleyl alcohol (10 moles ethylene oxide) 11.1% of a similar condensn prod. contg. 5 moles ethylene oxide and 48.3% urea. 2. 1. 71 as 100114 (4pp068)

D25 : OTHER DETERGENTS

FARH ★ D25 59824B/33 ★BE -874-076

Solid cleaning prod. for glass, esp. car windows - contains surfactants, phosphate(s), silicate and phosphoric acid partial ester(s)

HOECHST AG 15.02.78-DT-806344

A97 E11 (E34) (09.08.79) C11d

The moulded hand mixt. (a) ≥1 water-soluble alkali phosphate; (b) ≥1 anionic and/or nonionic surfactant; (c) an alkali silicate opt. in association with water; (d) ≥1 mono- and/or di- (1-4C alkyl) ester of anthophosphoric acid or the reaction prod. of phosphonic acid anhydride with a monovalent alcohol and a 1-12C alkane polyol contg. 2-6 OH gps. in molar ratio 1:2: 4/n or with an excess of alcohols (where n is the number of OH gps. in the polyol) and (e) a complesant and a solvent.

The prod. is partic. used for car windows. It gives a good cleaning effect without leaving films or streaks. It dissolves slowly with water, such as rain snow or fog, so that the windscreen wiper is wetted by an almost constant concn. of prod. 9.2.79 as 874076(10pp597).

SHEL ★ D25 60013B/33 ★DS 1618-911

Sulphonatable alkylate prepn. by hydrogen fluoride after-treatment - to reduce bromine index of benzene and olefin mixt. reaction prod.

SHELL INT RES MIJ BV 09.06.67-DT-618911

E14 H04 (09.08.79) C07c-03/54 C07c-15/02

Alkylates, which can be sulphonated to detergent materials, are prepd. by first alkylating benzene with an n-olefin mixt. in the presence of HF as catalyst. After removing most of the HF catalyst, the crude alkylate is after-treated with HF.. Vol. ratio HF: total hydrocarbons is 1: 20 to 10: 1. Total mol. ratio benzene: olefin, including the benzene and olefin in alkylate, is 1: 1 to 50 : 1.

After-treatment can reduce Br index by 40-50%, e.g. to 0.02. Sulphonates obtd. on sulphonating the alkylates obtd. have a lower Klett-colour, e.g. reduced from 200 to 78. 9.6.67 as 618911(8pp200).

PROC D25 40922F/00 =DS 1808-834

Enzyme preparations

PROCTER & GAMBLE CO 15.11.67-US-683196

*B04 (D16) (09.08.79) *BE-723-873 + C07g-07/02*

Stabilised aq. prepns. of enzymes protease, α-amylase or mixts. (I) contain 0.001-1% active enzyme, 65-97% water, 2-27% of a stabilising agent consisting of 1-4C monohydroxy alcohols, alkoxymonohydroxy alcohols of formula $R_1O.R_2.OH$ (II) (where R_1 is alkyl or 1-8C alkoxyalkyl with 0-1 ether bonds; R_2 is 1-4C alkylene; or a dialkylglycol ether of formula (III) $R_1O(CH_2CH_2O)_xR_2$; in which R_1 and R_2 are 1-4C alkyl; x is 1-10) as well as 0-15% of a non-ionic or zwitter-ionic detergents.

(I) may be used as stain remover, detergent additive or detergent mixt. It may be used to remove relatively small stains from fabrics or as an additive instead of hypochlorite bleaches. (I) may also be used as mouthwash. (I) are more conomical than known agents. They are more easy to andle for small applications, are stable and do not attack luorescing agents or whiteners. 14.1.68 as 808834 (12pp)

ROC D25 45020R/25 =DS 1964-088
mylolytic enzyme compositions for launder - ing stabilised against oss in activity during
PROCTER & GAMBLE CO 23.12.68-US-786432
*A25 (A97) (09.08.79) *BE-743-505 C07g-07/02*

stable, aq. enzyme mixt. comprises (a) 65-97wt.%, vater, (b) 0.001-1 (0.01-0.5) wt.% amylolytic enzyme, sp. a-amylase from Bacillus subtilis (c) 0.001-1 wt.% based on Ca^{++}) of a stabilising calcium salt (d) 2-27wt.% f (poly)ethylene glycol or 1,3-propane diol as costabiliser nd (e) 0-15 wt.% of a nonionic or zwitterionic detergent, . g. a condensn prod. of ethylene oxide and a 8-22C alkan-l.

The enzyme mixt. may be used to degrade starch. 2.12.69 as 964088 (9pp068)

IOY D25 21320W/13 =DS 2443-073
ree-flowing granular washing and cleaning compsn. - provided vith anticaking coating formed by combination of metal salts
LION FAT & OIL KK 10.09.73-JA-102404
*(09.08.79) *DT2443-073 C11d-01*

A granular washing agent is obtd. from a mixt. of 5-40 wt.% surfactant and 40-95 wt.% builders by known processes. The granular structure is maintained by separately spraying the granules first with an alkali metal -silicate, -sulphate, -carbonate and -hydroxide and then secondly with ≥1 polyvalent metal sulphate. The granules are coated with a reaction prod. of the two applications and are thus protected against compacting and coagulation. 9.9.74 as 443073 (8pp068)

RHON D25 05648Y/04 =DS 2630-935
Hydrophilic polyacetal as antisoil agent for textiles - by acetalising prod. obtd. from diol phthalate deriv., polyoxyalkylene glycol and dihydroxyethyl amine
RHONE-POULENC INDUSTRIES 10.07.75-FR-022626
*A25 E19 F06 (A87) (09.08.79) *BE-844-006 C08g-04 C11d-03/37 D06m-13/16*

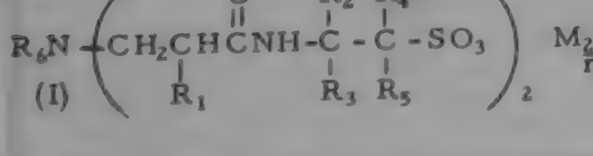
Hydrophilic polyacetals are produced by reacting (a) a mixt. of 20-60 wt.% of a reaction prod. A and 80-40wt.% of a mixt. B of 2 cpds. with (b) sufficient moles of aldehydes equal to ≥1/2 the no. of OH present in (a).

A is produced from phthalic acid or anhydride or diester and ≥1 satd. diol of mol. wt. < 300. Mixt. B consists of (a) 50-100 wt.% $R-(OC_xH_{2x})n-OH$ (where R is H or 1-20C hydrocarbon residue; x is 2-3 or 4; and n is a no. to give a cpd. of mol. wt. 300-10,000) and (b) 0-50wt.% $[R'_2N^+(CH_2-CH_2-OH)]X^-$ (where each R' is 1-4C alkyl or benzyl; and X is a halide or Me-sulphate ion).

The polyacetals are highly suitable to prevent soiling or resoiling of cleaned textiles. They also prevent soiling of textiles in washing solns. and during rinsing after the washing. 9.7.76 as 630935 (7pp260)

CIBA D25 43437Y/25 =GB 1550-420
Surfactant (N,N)-bis-alkylamido alkane sulphonate derivs. of amines - prepd. from amino cpd. and corresp. acrylamido cpd.
CIBA GEIGY AG 19.12.75-US-642269
*E19 (15.08.79) *BE-849-504 C07c-143/67 C11d-01/28*

An aminod:- and polyalkylamidoalkane sulphonic acid of formula (I), or its salt is prepd., such that R_1 is H or 1-4C alkyl; R_2, R_4 and R_5 are each H, 1-12C alkyl or 3-8C cycloalkyl; and R_3 is 1-12C alkyl, Ph, tolyl or pyridyl.


(I)

$$R_6N\left(CH_2\underset{R_1}{\underset{|}{C}}H\overset{O}{\overset{\|}{C}}NH-\overset{R_2}{\underset{R_3}{C}}-\overset{R_4}{\underset{R_5}{C}}-SO_3\right)_2 M_{\frac{2}{n}}$$

R_6 is a straight- or branches chain (un)substd. 1-25C alkyl, unsubstd. or alkyl-substd. 3-8C cycloalkyl, furfuryl, morpholinyl, (substd.) Ph, (substd.) benzyl or a gp. derived from a polyvalen amine. M is H, an alkali(ne earth) metal, a gp. derived from an organic base, or ammonium; and n is an integer corresp. to the valency of M.

(I) are esp. used as surfactants together with a compatible diluent or carrier, e.g. in aq. compsn. They show excellent foaming properties and a good calcium compatability when used in aq. soln. 16.12.76 as 052600 (12pp931)

KAOS D25 09451Y/06 =GB 1550-662
Granular or powdery nonagglomerating detergent compsn. - contg agglomerating type surfactant and specified antiagglomerating agent
KAO SOAP KK 30.09.75-JA-117815
*A97 E19 (15.08.79) *BE-846-687 C11d-01/83*

An improved granular or powdery detergent compsn. is prepd. comprising an alkyl ether sulphate, a branched alkyl sulphate, an alkane sulphonate, a vinylidene olefin sulphonate, an internal olefin sulphonate or nonionic surfactant as a main component.

The compsn. also contain a polyoxyethylene alkyl or alkenyl ether as an anti-caking agent to reduce the tendency for the compsn. to cake or agglomerate. The compsn contains 2-40 wt.% of a first surfactant having a tendency to cake; 0.2-20 wt.% of the anti-caking agent; 0.20 wt.% of a second surfactant which is a 10-16C alkylbenzene sulphonate, or 10-20C α-olefin sulphonate or their mixts.; and 10-40 wt.% of a water-soluble inorganic alkaline, inorganic neutral- or organic detergent builder or their mixts.

This compsn. contains no sodium tripolyphosphate as a builder and has a reduced eutrophication problem. 20.9.76 as 038874 (12pp931)

LIOY ★ D25 60295B/33 ★J5 4082-853
Washing stained tableware in automated washer - using oxyethylene-oxypropylene based nonionic surfactants forming neutral or slightly alkaline detergent
LION FAT & OIL KK 14.12.77-JA-150354
A97 P28 (02.07.79) A47l-15/42

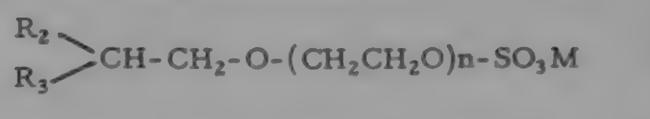
In washing stained tableware using an automated washer, the improvement comprises initially washing it with a neutral to weakly alkali detergent comprising 0.5-10% of ≥1 nonionic surfactant selected from an adduct of ethyleneoxide, propyleoxide and opt. branched 4-18C alcohol, an adduct of ethyleneoxide, propyleneoxide and 8-16C alkyl phenol, an adduct of ethyleneoxide, propyleoxide and ethylenediamine, and pluronic-type surfactant, and 1-40% of amylase and/or protease, and subsequently washing it with an alkali detergent comprising 0.5-10% of >1 nonionic surfactants selected from an adduct of ethyleneoxide, propyleneoxide and opt. branched 4-18C alcohol, an adduct of ethyleneoxide, propyleoxide and 8-18C alkylphenol, an adduct of ethyleneoxide, propyleneoxide and ethylenediamine, and pluronic-type surfactant, and 20-95% of >1 binders and tert. Na phosphate.

The tableware is cleaned without leaving any spots even when the hardness of the washing water is low or high. 14.12.77 as 150354 (5pp34)

LIOY ★ D25 60304B/33 ★J5 4083-004
Liq. detergent compsn. which absorbs little oxygen - contains polyoxyethylene alkyl ether salts and ethylene di:amine tetra:acetate
LION FAT & OIL KK 14.12.77-JA-150355
A97 E12 (A25 E16) (02.07.79) C11d-01/29 C11d-03/26 C11d-10/02

The compsn. contains 5-40 wt.% salt of polyoxyethylene alkylether sulphate consisting of 40-85 wt.% of a salt of polyoxyethylene straight chain alkylether sulphate (I) and 15-60 wt.% of a salt of polyoxyethylene branched chain alkylether sulphate (II), and 0.03-0.2 wt.% ethylenediamine tetracetate.

$R_1-O-(CH_2CH_2O)n-SO_3M$ (I)



$$\begin{matrix}R_2\\R_3\end{matrix}\!\!>CH-CH_2-O-(CH_2CH_2O)n-SO_3M$$ (II)

R_1 is a 10-14C (average) straight chain alkyl, R_2 is 1-14C straight chain alkyl; the average carbon number of $\begin{matrix}R_2\\R_3\end{matrix}\!\!>CH-CH_2-$ is 10-14, n is 1.5-2.5 an average, and distribution of n is 40-70% for n = 0-1, 20-30% for n = 2-3, < 30% for n ≥ 4; M is alkali metal, alkaline earth metal, NH_4 or alkanolamine.

Plastic bottles which contain this detergent do not deform even when stored for long periods. 14.12.77 as 150355 (6pp126)

CANO ★ D25 60748B/33 ★J5 4085-176

Surfactant removal from vacuum plates, glass lens etc. - is decomposed with an enzyme, e.g. lipase, so as to be easily washed off with water

CANON KK 21.12.77-JA-153813

(06.07.79) B01j-01

A surfactant, e.g. adhered to the surface of a vacuum base plate, a glass lens, etc. is decomposed so as to be easily washed-off with water without any use of alcohol, Freon, strong acid or alkali without damaging the surface by treating it with an enzyme, e.g. lipase, acetylesterase, phosphoric monoester-hydrolysing enzyme, peptidehydrase, etc. to decompose it into oleophilic and hydrophilic radicals.

The surfactants are e.g. nonionic ether surfactants, nonionic alkylphenol surfactants, nonionic ester surfactants, anionic fatty acid soap surfactants, anionic dodecylbenzene sulphonate surfactants, etc. 21.12.77 as 153813 (4pp34)

URAL= ★ D25 60986B/33 ★SU -511-335

Compsn. for cleansing heavily soiled surfaces and washing hands - contg. nonionogenic surfactant, cyclohexanol, ethanol, tri:ethanolamine, di:sodium edta, inorganic acid, perfume, glycerol and water

URALS CHEM IND RES 28.11.73-SU-973299

(11.08.76) C11d-01/66 C11d-03/44

Compsn. is used for cleansing heavily soiled metallic surfaces, ceramic, enamel, glass, marble, cement flooring, painter's brushes, and also for washing hands.

The compsn. contains (in wt.%) a non-ionogenic surfactant 1-10, cyclo-heranol 4-7, ethanol 6-10, triethanolamine 1-5, glycerol 5-15, disodium EDTA 0.3-1, inorganic acid 1-2, perfume 2-3, the balance is water. The pH is 6-7.5.

Shmakova E.P., Pilipenko O.P., Rimm, G.D., et al

Bul. 15/25.4.76 28.11.73 as 973299 (3pp70)

LEBE/ ★ D25 61315B/33 ★SU -631-525

Metal component surface cleaning compsn. - includes nonionic surfactant, specified alcohol, polyethylene glycol ether of higher synthetic fatty alcohol, to remove oil, paint etc.

LEBEDEVA E V 06.12.76-SU-427972

(05.11.78) C11d-01/68

Compsns. for cleaning metallic surfaces, contg. nonsaponifiable sec. alcohols and non-ionogenic surfactants is improved by using as the latter a mixt. of polyethylene glycol ethers of synthetic 10-18C fatty alcohols in an amt. of 20-23 wt.%; the balance are the monosaponifiable sec alcohols.

By this method, the detersive properties of the compsn. are improved. The compsn. is nontoxic and non-inflammable.

Lebedeva E.V., Soloveva V.A., and Shmygaleva L.N.

Bul. 41/5.11.78 6.12.76 as 427972 (4pp70)

OLIN ★ D25 61428B/33 ★US 4162-897

Poly:chloro:isocyanurate prodn. process effluent gases analysis - to measure nitrogen tri:chloride by/product concn. and ensure safe working

OLIN CORP 20.09.77-US-834939 (24.11.76-US-744489)

E13 R16 (D22) (31.07.79) G01n-31/08

Effluent gases from a polychoroisocyanurate prodn. process are analysed for NCl_3 by (a) forming a gaseous mixture by introducing the effluent gases and a carrier gas into a first zone, (b) passing the mixture from this zone through a chromatographic column to separate the NCl_3 from the mixture, (c) passing the NCl_3 from the column to a detector or so that its concn. can be measured, (d) recording the concn. of NCl_3 on e.g. a meter, (e) providing the meter with an upper limit for the NCl_3 concn. in the effluent gases, and (f) activating an alarm when this upper limit is reached or exceeded. Pref. the chromatographic column contains PTFE powder coated by a silicone oil.

The process avoids the presence of explosive amounts of by-product NCl_3. US 4087607 described a continuous polychloroisocyanurate prodn. method employing the NCl_3 analysis process. The polychloroisocyanurates are useful in washing, bleaching and sanitising applications.

20.9.77 as 834939 Div. ex 4087607 (5pp990)

MATT- D25 06746A/04 =US 4162-950

Recovering traces of platinum gp. metals from waste solns. - by anodic oxidn., cathodic redn., and repeated anodic oxidn.

MATTHEY RUSTENBURG 13.07.76-GB-029093

*M28 (31.07.79) *DT2731-698 C25c-01/20*

Pt Gp. metal, present as a stable complex dissolved in an aq. effluent from a Pt Gp metals refinery, is recovered by (a) adjusting the pH to $\geqslant 10$; (b) heating to $> 60\,°C$; (c) electrolysing using an anode potential having a half-cell voltage of $\geqslant 7.5$ volts and a current density $\geqslant 0.2 A/cm^2$; and (d) filtering off the pptd. metal.

Pref. the electrolysis is effected using a graphite electrode. Spectrographic examination of the residue shows a max. of < 1 ppm of total metals in the treated electrolyte. 15.9.78 as 942814 C.i.p. 4127458 (+ 12.7.77 - US - 815005) (3pp936)

PROC ★ D25 61476B/33 ★US 4162-983

Body imparting fabric treating compsn. - contg. alkali-treated starch and surfactant

PROCTER & GAMBLE CO 13.03.78-US-885925

(31.07.79) D06m-13

Liq. compsn. for restoring body to fabrics contains (a) 1-25% gelatinised stabilised vegetable starch, prepd. by treating starch in water dispersion at pH 10-13, then neutralising to pH 4-9; (b) 5-50% anionic, nonionic, zwitterionic and/or amphoteric surfactants; (c) $\leqslant 20\%$ electrolyte and (d) 25-94% water.

Compsn. is stable, and not prone to retrogradation. It removes traces left after treatment of the fabric with water insoluble solvents. 13.3.78 as 885925(6pp955)

PROC ★ D25 61478B/33 ★US 4162-987

Enzyme-contg. automatic dishwashing detergent compsns. - contg. mixt. of proteolytic and amylolytic enzymes

PROCTER & GAMBLE CO 16.01.78-US-869881 (24.06.76-US-699416)

A97 (D16) (31.07.79) C11d-03/37

Cleaning compsn. esp. for automatic dishwashers contains: (a) 0.5-20% of an alkoxylated nonionic surface active agent (I); (b) 0.001-5% of an enzyme mixt. of a proteolytic enzyme (II) (proteolytic activity 80-100% of max. activity when measured at pH 12 using Anson Haemoglobin method in presence of urea) and an amyloytic enzyme (III) (amylolytic activity $> 50\%$ of max. when measured at pH 8 by the SKB method at 37°) in ratio 4-1:1-4; (c) 0-5% of a suds regulating agent (IV); (d) 0-60% of a detergent builder (V); and (e) 0-20% H_2O. The final compsn. has amylolytic activity $\nless 150$ Kilo Novo units/kg, and proteolytic activity $\nless 6.0$ Anson units/kg.

(I) is (i) the condensn. prod. of a 10-18C carboxylic acid (1 mol) with ethylene oxide (EO)(5-50 mol); (ii) the condensn. prod. of a 10-24C alcohol (1 mol) with 5-50 mol. of (EO); (iii) polyethylene glycols of mol. wt. 1400-30,000; (iv) the condensn. prod. of alkylphenols (8-18C alkyl)(1 mol) with 4-50 mol. (EO); (v) the condensn. prod. of $PhCH_2Cl$ and an ethoxylated alkylphenol (6-12C alkyl; 12-20 mol. (EO) condensed/mol. alkylphenol); (vi) $(ClC_6H_4)_2CHCO_2(CH_2CH_2O)_xR$ (where x = 4-20; R=1-4C alkyl); (vii) $Y[(C_3H_6O)_n(C_2H_4O)_mH]_x$ (where Y is 1-18C organic radical contg. x reactive H atoms; n and m are such that the (C_2H_4O) content is 10-90% by wt.); (viii) the alkoxylated nonionic surface active agents of formula (i)-(vii) in which the terminal OH of the alkoxy grp. is acylated with a monobasic acid; (ix) or mixts.

(IV) is (i) $\{SiRR'O\}_x$ (x=20-2000; RR'=Me, Et, Pr, Bu, or Ph); (ii) a microcrystalline wax of m.pt. 35-115° and saponification value < 100; (iii) stearyl or oleyl acid phosphate; (iv) a siloxane/glycol copolymer self-emulsifying suds suppressor; or (v) mixts. (V) is Na or K polyphosphate, carbonate, bicarbonate, alkali silicates, polyacetates, carboxylates, polycarboxylates, polyhydroxysulphonates, or mixts.

Compsns. are free of active Cl, and give improved cleaning performances for a range of soils compared with compsns. contg. conventional enzymes. In addn. the compsns. provide excellent dish-washing properties even though phosphate levels may be reduced or sero, and the tendency for the enzymes to be inactivated is reduced. 16.1.78 as 869881 (11pp478)

UNIL ★ D25 61483B/33 ★US 4162-994

Mechanically mixed, non-spray dried powdered detergent compsns. - contg. calcium salt of anionic surfactant, ethoxylated nonionic surfactant, builder salt and calcium carbonate

LEVER BROTHERS COM 10.11.77-US-850320
(31.07.79) C11d-01/83 C11d-03/06

Powdered laundry detergent compsn. contains: (a) 4-20 wt. % of the Ca salt of a non-soap organic anionic surfactant (I); (b) 4-20 wt. % of an ethoxylate of alcohol nonionic surfactant (II); (c) 5-70 wt. % of an alkali metal salt of a builder cpd. (III) that pptes hardness ions in H_2O; and (c) 0-40 wt. % of $CaCO_3$ as a crystallisation seed.

Use of the Ca salts of (I) gives detergent compsns. which possess good processing and detergency characteristics, and excellent cold H_2O detergency performance.

10. 11. 77 as 850320 (10pp478)

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L    A93  *DT 2602-948
    Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L    A93 L02(A21)  *DT 2602-947
    Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
    M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE  -832-423  X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF  7502-292  X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or # sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636  36477U  A97D15M14
*645  49861X  A41E19J04
=646  19776V  A41E19J04
=647  21100X  A17+R4
=650  06289S  A22
#651  24399W  A97K05L02M22
=652  73248V  A12
=653  70544V  A81G03
*654  49862X  A88H01Q4
*655  49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                               49862X/26  *US 3963-654
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                          49433X/26  *DT 2554-327
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                               48076X/26  *CA -990-668
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

* ADLE/ 23.09.77 ADLER N D11 *DT 2742-818
Bread and rolls baking tin - 60020B/33
* AFLI- 02.06.77 AFL IND INC D15 *US 4162-973
Water polisher removing solids and emulsified oils - 61470B/33
* AGEN 02.10.70 AGENCY OF IND SCI TECH D17 E13 *J7 9020-577
Fructose and glucose sepn. - 60932B/33
AGEN 09.12.70 AGENCY OF IND SCI TECH D17 E13 =J7 9020-578
Separating carbohydrates - 40563T/25
AGEN 00.00.73 AGENCY OF IND SCI TECH D17 E13 =J7 9020-579
Separating carbohydrates - 40563T/25
AGEN 00.00.73 AGENCY OF IND SCI TECH D17 E13 =J7 9020-580
Separating carbohydrates - 40563T/25
AGEN 18.12.77 AGENCY OF IND SCI TECH D25 E12 =J5 4083-913
Detergent compsn. with imido bis-sulphate and aluminosilicate builder - 53007B/29
* AGEN 19.12.77 AGENCY OF IND SCI TECH D15 *J5 4084-353
Treating exhaust water exuded from city waste - 60573B/33
AGRO- 06.05.70 INST AGRONOMIC TIMI C03 D13 =DS 2120-425
Animal feed supplement containing metal chelates of copper - 75589S/48
* AIRL 03.02.78 AIR LIQUIDE L' A97 D22 *DT 2902-173
Deodorant compsn. or plant for animal waste fertilisers - 60144B/33
AJIN 28.02.73 AJINOMOTO KK B05 D16 E19 =J7 9020-600
Industrial fermentative amino acids prepn. from cheap carbon sources - 12129Y/07
* AJIN 12.12.77 AJINOMOTO KK D13 *J5 4084-072
Non-hygroscopic caramel prodn. - 60543B/33
* AJIN 19.12.77 AJINOMOTO KK D12 *J5 4084-065
Delicately flavoured food prodn. for use as relish - 60541B/33
AJIN 01.02.78 AJINOMOTO KK B03 D16 E13 =NL 7900-770
Fermentative prodn. of L-proline - 58379B/32
* ALBE/ 03.02.78 ALBERTINI F D15 J01 *DT 2903-776
Filter for liq. with suspended fine particles - 60166B/33
* ALBR 13.02.78 BUSH BOAKE ALLEN D13 *BE -874-095
Dehydrating organic tissues esp. foods - 59829B/33
ALFA 27.01.77 ALFA-LAVAL AB D12 =US 4163-009
Sepn. of animal prod. esp. slaughterhouse waste into fat and protein - 57096A/32
ALFA 31.01.78 ALFA-LAVAL AB D16 E17 =GB 2013-716
Continuous prodn. of ethanol - 60966B/33
* ALFA 31.01.78 ALFA-LAVAL AB D16 E17 *NL 7900-803
Continuous prodn. of ethanol - 60966B/33
* ALKE/ 26.01.78 ALKEMADE A J C D13 *NL 7900-561
Brussels sprout rotary stripper with blade retraction - 60962B/33
AMCY 25.01.74 AMERICAN CYANAMID CO B03 C02 D13 =CS 7500-448
Cycloalkano/B/thienyl-urea derivs. - 52741W/32
AMCY 25.01.74 AMERICAN CYANAMID CO B03 C02 D13 =CS 7801-231
Cycloalkano/B/thienyl-urea derivs. - 52741W/32
AMCY 25.01.74 AMERICAN CYANAMID CO B03 C02 D13 =CS 7801-232
Cycloalkano/B/thienyl-urea derivs. - 52741W/32
AMCY 25.01.74 AMERICAN CYANAMID CO B03 C02 D13 =CS 7801-233
Cycloalkano/B/thienyl-urea derivs. - 52741W/32
* AMLC= 01.03.77 AS MOLD CHEM INST D16 *SU -631-533
Crystalline suspension in wine removal - 61323B/33
* AMST- 17.05.77 AMERICAN STERILIZER D16 E13 (D22) *US 4162-942
Determination of ethylene oxide sterilisation residual - 61452B/33
ANIS 03.01.78 ANIC SPA B05 D23 E17 =DK 7805-288
Methyl-heptenone prepn. for use as terpene intermediate - 45685B/25
* ANVR 28.12.77 AGENCE NAT VALORISATION D16 *SW 7813-314
Calorimeter for biological cultures - B/33
* ARFF/ 19.09.77 ARFF J H D15 E36 J03 M11 *CA 1059-291
Ozone generator for water purificn. - 59885B/33
ARIT/ 30.06.75 ARITA T D23 =J7 9020-203
Inflammable wax mfr. - 13816Y/08
ASAH 08.02.71 ASAHI CHEMICAL IND KK D13 E14 =J7 9020-583
Dihydrochalcones - 64245T/40
ASAH 08.06.76 ASAHI CHEMICAL IND KK D15 E36 =J7 9020-440
Purifying water in fish tank - 11105A/06
ASAH- 03.02.78 ASAHIMATSU KORIDOF D13 #DT 2804-659
Soya protein food from whole beans - 40431A/23
ASAO 07.06.76 ASAHI KOGAKU KOGYO D21 =GB 1550-330
Tooth and bone prostheses prodn. - 88592Y/50
* ATKI/ 24.01.78 ATKINSON A A97 B04 D16 J01 *WP 7900-541
Affinity chromatography media for protein binding - 61546B/33
* AUGE= 28.06.76 AS UKR GEN INORG C04 D16 *SU -596-563
Fertiliser contg. high concn. of trace elements - 61082B/33
* AUHE= 11.05.77 AS UKR HEAT PHYS D13 *SU -631-136
Candied peel of citrus fruit treatment - 61134B/33
* AUHY= 03.05.76 AS UKR HYDROBIOLOGY C03 D13 *SU -593-693
Granulated animal, e.g. fish, feed additive - 61080B/33
* AUMI= 15.06.77 AS UKR MICROBIOLOGY D16 E13 *SU -631-529
2-O-Methyl-D-rhamnose microbiological prodn. - 61319B/33
AUTA- 15.07.71 AUSTRIA TABAK AG D18 E16 =DS 2234-036
Tobacco smoke filter - contg diethanolamine - 07069U/06

* BACK- 02.02.78 BACKUS SORMAC BV D14 *GB 2013-481
Topping, tailing and/or cutting vegetables such as carrots or peppers - 60234B/33
BADI 14.05.77 BASF AG A60 C03 D22 E14 =US 4163-020
2-Tri:chloro:methyl-4-nitro:benzene:sulphenic acid derivs. - 82112A/46
BADI 05.12.77 BASF WYANDOTTE CORP A35 D25 (A11 A23) =BR 7808-000
Reclaiming stained cellulose contg. fabrics - 78105A/43
BADI 15.12.77 BASF AG D23 E17 =J5 4084-509
Hydroxy-citronellol prepn. by hydrating citronellol - 47300B/26
BADI 29.12.77 BASF AG C02 D22 E13 F09 =DK 7805-847
Substd. triazolyl glycol ether derivs. - 52917B/29
* BADI 03.02.78 BASF AG D23 E15 (D13) *DT 2804-597
Beta-damascone and beta-damascenone prepn. - 60060B/33
* BADI 08.02.78 BASF AG A60 D18 E21 F06 *DT 2805-304
Azo dyes contg. benzisothiazole di:sulphonic acid gp. - 60124B/33
BAKP 26.11.76 BAKER PERKINS INC D11 =CA 1059-422
Food processing oven with oil ribbon burners - 40063A/22
* BAKU/ 12.05.75 BAKULIN V A D16 *SU -547-471
Cultivation of microorganisms, e.g. algae - 61005B/33
* BEAF 08.02.78 BEATRICE FOODS CO C03 D13 *DT 2822-658
Expandable pelletised animal part-derived thermoplastic compsn. prepn. - 60130B/33
BEEC 20.04.74 BEECHAM GROUP LTD B02 C02 D16 =CA 1059-050
Clavulanic acids and derivs - 72840W/44
BEEC 15.03.75 BEECHAM GROUP LTD B04 D16 =US 4163-051
Antibiotic MM 17880 from streptomyces olivaceus - 72175X/39
* BEER= 10.06.77 BEER NON ALCHOHOL D16 *SU -631-527
Beverage e.g. non-alcoholic beer prodn. mash filter - 61317B/33
BEHW 24.12.74 BEHRINGWERKE AG B04 D16 =CA 1059-027
Adsorbed pertussis antigen - 52453X/28
* BERA/ 25.08.78 BERAN J D11 *CS 7805-549
Cakes prodn. appts. - B/33
BILS 10.07.74 BILLERUD UDDEHOLM D15 F09 J01 =CA 1059-037
Particulate-bed filter for liqs. - 13316X/08
BIOC- 24.01.78 BIOCELL SRL D23 (D13 D21) =GB 2013-705
Fractional crystallisation of fats esp. butter and palm oil - 40648B/22
BIOM- 14.04.75 BIO-MED SCIENCES A97 D22 E19 =CA 1059-412
Disposable heat treatment indicator strip - 66825X/36
BIOM- 14.09.77 INST BIOMED TECHNIK D22 =DS 2741-317
Anodic oxidn. sterilisation of fluids - 22267B/12
BIOR- 14.12.77 BIORES CENT KK D16 E17 =J5 4084-092
Microbiological prepn. of mono and/or di:carboxylic acids - 45675B/25
BLAC 05.04.76 BLACK CLAWSON CO D15 J09 (D14) =CA 1059-365
Conical press for liquid extraction - 74403Y/42
BOEF 10.09.71 BOEHRINGER MANNHEIM GMBH A89 D16 (A13) =DS 2145-345
(co) polyaralkene gel carrier - 24254U/18
* BOHN/ 15.04.78 BOHNKE B D15 *BE -875-553
Waste water activated sludge plant with sec. activation tank - 59870B/33
* BOOR/ 02.06.78 BOOR S D12 *CS 7803-595
Storage-stable poultry sausage - B/33
BORA- 30.11.78 BORAX HOLDINGS LTD A97 C03 D22 F09 =GB 2013-498
Synergistic wood preservative compsn. - 49370B/27
* BORK/ 21.04.78 BORKMANN K D16 *DL -135-916
Wort clarification in beer breweries - 59914B/33
* BORM/ 28.04.78 BORKMANN K D16 *DL -136-152
Preventing oxidn. of boiling, foaming wort infusion - 59968B/33
BRAS- 20.08.71 BRASSERIES KRONENBO D16 =CS 7205-747
Beer fermentation - 05017U/04
BRAS- 30.01.78 BRASSERIES KRONE SA D16 E17 J04 =NL 7811-390
Analytical appts. for measuring alpha-di:ketone concn. - 25979B/14
BRIM 12.12.74 BRISTOL MYERS CO B03 C02 D13 =HU T016-828
Novel antibiotic Bu-2183 - 49994X/27
* BRIM 18.07.77 BRISTOL MYERS CO B03 D16 *US 4162-938
Antibiotic rudolphomycin prepn. - 61451B/33
BUER- 12.07.77 BUER C H GMBH A96 D21 (A13 A91) =DS 2731-520
Non-antiperspirant deodorant - 06251B/04
BUHL 15.12.71 BUHLER-MIAG GMBH D16 =DS 2162-167
Screw conveyor lifting gear - 31567U/22
BUHL 28.09.72 BUHLER-MIAG GMBH D16 =DS 2247-619
Electrical drive for malt kiln grids - 38405V/21

* CADB 31.01.78 CADBURY SCHWEPPES LTD D13 *DT 2903-091
Food prod. consisting of opt. filled, pref. tubular net - 60155B/33
* CADB 01.02.78 CADBURY INDIA LTD D13 *NL 7801-144
Cocoa butter substitute - 60958B/33
* CADB 01.02.78 CADBURY INDIA LTD D13 *NL 7801-145
Cocoa butter substitute - 60959B/33
CADB 01.02.78 CADBURY INDIA LTD D13 #NL 7801-146
De-gumming sal seed fat glyceride(s) - 56218B/30
CALP- 27.05.75 CALPIS FOOD IND KK D11 =J7 9020-591
Powdered instant sponge cake mix - 04736Y/03
* CANO 21.12.77 CANON KK D25 *J5 4085-176
Surfactant removal from vacuum plates, glass lens etc. - 60748B/33
CARO 02.12.77 CARBORUNDUM CO D15 E36 J01 =BR 7807-944
Hard, granular, activated carbon for water treatment - 35107B/18
CASE/ 03.02.78 CASEY J A D17 =GB 2013-645
Precipitation of impurities from cane sugar juice - 09795B/05

CASI/ 09.10.69 CASIER J D17 (D13) =J7 9020-581
Water-insoluble pentosans - 27532S/16
CHAR/ 21.11.77 CHARM S E B04 D13 J04 =BR 7807-695
Detection of antibiotics in liquid samples e.g. milk, body fluid - 24010B/13
*CHER= 24.06.77 CHERKASSY MACH CONS D12 *SU -631-132
Sausage meat prodn. chopper and mixer - 61130B/33
CHIM- 27.01.78 CHIMICASA GMBH B05 C03 D16 (D13) =NL 7900-513
Terpene(s) steam-distilled from aromatic plants - 40655B/22
CHIN 02.06.75 CHINOIN GYOGYSZER C03 D13 (D16) =GB 1550-644
Cultivating yeast for animal consumption - 04320Y/03
*CHME= 02.06.76 CHELY MED INST D16 *SU -602-548
Appts. for microorganisms sepn. from biological media and washing liq. - 61084B/33
CIBA 19.12.75 CIBA GEIGY AG D25 E19 =GB 1550-420
Surfactant (N,N)-bis-alkylamido alkane sulphonate derivs. of amines - 43437Y/25
CIBA 21.11.77 CIBA GEIGY AG A60 B05 C03 D22 =J5 4084-535
Halogenated 3-hydroxy-di:phenyl ether derivs. - 40883B/22
*CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) *GB 2013-674
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
*CILE/ 22.02.77 CILEK E T D11 (D16) *US 4163-065
Edible article for ingestion in religious ceremonies - 61504B/33
CLOR- 06.02.78 CLOROX CO D25 E34 =GB 2013-742
Built aq. bleaching compsns. - 36993B/19
CNSM 24.06.76 CENTRALE SUIKER MIJ NV D15 =DS 2728-585
Anaerobic sewage treatment - 02580A/02
COJA- 07.04.77 COJAFEX BV D15 J01 #US 4162-945
Multistage evaporator for desalination of seawater - 30288Y/17
COLG 09.08.76 COLGATE PALMOLIVE CO A96 D22 =CA 1058-802
Tape fastener for disposable diaper - 73887Y/41
COMB- 29.08.73 COMBE INC A96 D21 E24 =DS 2435-578
Sulphur, bismuth citrate and triethanolamine compsn. - 00153W/01
*COOQ 03.02.75 COOPER LABS INC B05 D21 *US 4163-022
Carbamyl and thiocarbamyl-guanidine derivs. - 61493B/33
CORP 09.11.77 CPC INTERNATIONAL INC D13 =J5 4084-053
Low-calorie peanut spread - 41080B/22
CORP 21.11.77 CPC INTERNATIONAL INC A11 D17 =BR 7807-617
Modified starch prepn. esp. using two centrifuge separations - 38989B/21
*CRAM- 02.02.78 MASCH CRAMER D14 J02 *DT 2804-343
Mixed fodder preparation machine - 60033B/33
CRIS/ 17.01.78 CRISP S A14 D21 L02 M22 (A81 A92 A96 D22) =WP 7900-521
Hardenable carboxylate cement compsn. - 56696B/31
*CRKA/ 07.03.78 CRKAL J A21 D15 *CS 7801-419
Purificn. of aq. effluent from epoxy resin prodn. - B/33

DAAB 22.01.76 SHIONO KORYO KK D23 E15 =J7 9020-485
Prepn. of dihydrojasmonic acid methyl and dl jasmonic acid methyl - 63957Y/36
DAAN- 29.11.74 DANSK ANDELS AEGEX D13 =CA 1058-954
Two-constituent long edible prods in core and sheath form - 63731X/34
*DAIS- 14.12.77 DAISAN GOMEI KAISHA A96 D22 F07 *J5 4082-892
Cotton with good water retention, for toiletry use, etc. - 60298B/33
DASU- 23.12.75 DANSKE SUKKERFABRIK C04 D17 J01 =CS 7608-398
Draining prethickened sludge for use as fertiliser - 30988Y/18
*DAVI- 09.12.77 MAXWELL DAVIDSON LT D15 J01 *GB 2013-510
Evaporator for sea water desalination - 60237B/33
*DEAK 12.08.77 AKAD WISSENSCHAFT DDR C03 D13 *DL -136-096
Prodn. of protein foods or feeds from vegetable materials - 59953B/33
*DEAK 04.05.78 AKAD WISSENSCHAFT DDR A97 B04 C03 D16 (A14) *DL -136-268
Affinity chromatography isolation of sugar specific enzymes - 59997B/33
DEGS 31.10.77 DEUTSCHE GOLD & SILBER D25 E34 =J5 4084-898
Stabilisation of sodium percarbonate particles against moisture - 33354B/18
DEGS 23.12.77 DEUTSCHE GOLD & SILBER D15 =NO 7804-386
Deodorising industrial and urban waste water sludges - 47180B/26
DENN/ 01.12.76 DENNE A D15 =DS 2654-431
Aerobic biological waste water purification - 42353A/24
*DITL/ 28.05.76 DITL P D15 *CS 7603-574
Insoluble cpds. elimination from aq. effluents and sludges - B/33
*DORI/ 02.03.77 DORING W D16 *DL -136-287
Centrifugal pump for fermentation emulsion contg. gas - 60005B/33
DORO 11.07.75 DORR OLIVER INC D15 =GB 1550-342
Screening and maceration of refuse in sewage - 27616Y/16
DOWO 05.08.76 DOW CORNING CORP A96 D22 E33 (A26) =DS 2735-453
Blood storage systems - 12650A/07
DOWO 04.08.77 DOW CORNING CORP A96 D22 E33 (A26) =US 4162-676
Blood storage systems - 12650A/07
*DUNG- 01.02.78 INST DUNGUNGS LEIPZ D15 *DL -136-044
Liquid manure treatment - 59948B/33
DUYV- 17.05.77 MACH DUYVIS BV D14 =DL -136-117
Press piston rod fixture - 88099A/49

EART- 13.05.77 EARTH CHEM CO C03 D22 #US 4163-038
Insecticidal and fungicidal fumigation without combustion - 72820A/41
*EMER/ 10.11.77 EMERICK R D D13 *US 4163-066
Fat compsn. for popping popcorn - 61505B/33
*ENDO- 13.12.77 ENDO SEIZAI BOFU GK C03 D22 E36 F09 *J5 4084-008
Bleaching method for wood, board etc. - 60517B/33
*ERBA 09.02.78 FARMITALIA ERBA C B03 D16 *BE -874-032
Anthracycline glycoside antitumour and antibacterial derivs. - 59812B/33
ERGE- 29.10.76 ERG ENERGIE-RECYCLI D15 =DS 2649-304
Sludge treated to produce energy-rich material - 33638A/19
*ERIC- 17.06.77 ERICKSON W A & CO A96 D21 E11 *US 4163-004
Improving inorganic fillers for direct dental filling materials - 61486B/33
ESPE 19.04.77 ESPE FAB PHARM PRAPARATE A96 D21 (A14) =DL -135-995
Dental filling of high pressure resistance - 61913A/35
ETHI 20.01.78 ETHICON INC D22 =GB 2013-603
Armed suture package of folded paperboard panels - 09730B/05
EURT 01.10.73 EUROC ADMINISTRATION AB D16 =DS 2445-636
Decomposing domestic refuse - 24637W/15

FARB 01.06.74 BAYER AG D15 =DS 2426-672
Activated sludge treatment for effluents - 83197W/51
FARB 31.07.76 BAYER AG D15 J02 (D16) =US 4162-970
Injector nozzles for injecting gases into liqs. - 08349A/05
FARB 31.07.76 BAYER AG D15 J02 (D16) =US 4162-971
Injector nozzles with deflectors for gas-liquid mixing - 08350A/05
FARB 25.11.77 BAYER AG A96 D21 (A14 A25) =J5 4085-296
Dental prostheses, etc. having increased impact strength - 44142B/24
FARB 15.12.77 BAYER AG B07 C03 D16 E19 =J5 4084-084
Stable microorganism preparations for degradation of organic material - 20031B/11
*FARB 02.02.78 BAYER AG A88 D15 F01 J01 (A14) *DT 2804-376
Dry-spinning hydrophilic hollow fibres from hydrophobic polymer - 60036B/33
FARH 07.10.74 HOECHST AG A11 D12 (A88 A92 A97) =CA 1059-670
Thermoplastic material based on modified protein - 30352X/17
FARH 07.10.74 HOECHST AG A11 D12 (A88 A97) =CA 1059-671
Thermoplastic material based on modified protein - 30354X/17
FARH 07.05.75 HOECHST AG A11 D22 (A96) =CA 1059-505
Water absorbent cellose ethers - 88959X/48
FARH 02.11.77 HOECHST AG C03 D13 (D23) =J5 4084-052
Lipoid and water-soluble cpd. extn. from crushed oil seeds - 35568B/19
*FARH 08.02.78 HOECHST AG B04 C03 D16 *DT 2805-197
Hygrostatin prepn. from Streptomyces rubrohygrostaticus - 60110B/33
*FARH 08.02.78 HOECHST AG D15 *DT 2805-308
Water-softener using removable cation exchanger layer - 60127B/33
*FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) *BE -874-076
Solid cleaning prod. for glass, esp. car windows - 59824B/33
*FERM= 26.05.77 FERMENT PRODUCT RES D16 *SU -631-531
Vodka from wheat source alcohol prodn. - 61321B/33
FINI- 23.04.76 MACHINEFAB FINIS BV D14 =CA 1059-399
Vegetable peeling machine with air and water sprays - 59474Y/34
*FIRM 16.01.78 FIRMENICH SA D23 E13 *WP 7900-509
Cis-2-methyl:propenyl-4-methyl-tetra:hydro-pyran prepn. - 61537B/33
FIRM 20.01.78 FIRMENICH SA D23 E13 =GB 2013-666
Cyclohexyl pentanolide derivs. for perfumery - 56570B/31
FMCC 16.12.76 FMC CORP D14 =DT 2759-611
Pressure vessel steriliser for batches of canned food prods. - 28857A/16
FMCC 30.12.77 FMC CORP D22 E17 =DK 7805-405
Aliphatic di:peroxy-di:carboxylic acid prodn. - 29650B/15
*FOOD= 17.05.77 FOOD IND AUTOMATION D16 *SU -631-526
Brewer's malt temp. automatic controller - 61316B/33
*FREU- 13.12.77 FREUNT SANGYO KK D11 E12 *J5 4084-049
Powdered activated calcium stearyl lactate - 60536B/33
FRRR 21.09.77 FERRERO P & CIA SPA D13 =DS 2800-309
Filled floatable spherical food prod. - 08058B/05
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =NL 7900-057
Anticariogenic foods and pharmaceuticals - 58290B/32
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =NL 7900-058
Anticariogenic foods and pharmaceuticals - 58294B/32
*FUJI/ 16.12.77 FUJIMOTO T A97 D16 *J5 4085-942
Inoculation of edible fungi - 60871B/33
*FUJT 20.12.77 FUJISASH IND KK D15 M11 *J5 4085-229
Treating waste liq. from electrodeposition cell - 60773B/33

*GALL- 20.01.78 GALLAHER LTD D18 J04 *GB 2013-476
Smoking prods. contg. catalysts with high activity - 60233B/33
*GAVR/ 10.01.77 GAVRIKOVA M A B02 C02 D13 *SU -631-517
Ethoxy tri:methyl di:hydro-quinoline sulphate salt prepn. - 61307B/33
GBFE- 22.12.69 GB FERMENTATION IND A11 B03 D16 (D17) =DS 2061-371
Glucose isomerase enzyme complex immobilised - 45262S/27
GEBA- 27.12.77 GEBA-GERAETEBAU GMB D12 =DK 7805-801
Shrimp peeling machine - 29804B/16
GEBA- 27.12.77 GEBA GERATEBAU GMBH D12 =NO 7804-139
Shrimp peeling machine - 29804B/16

*GEBH/ 20.01.78 GEBHARDT E D11 *DL -136-210
Protein(s) partially hydrolysed by enzyme(s) - 59982B/33

*GENO 19 12 77 GENERAL FOODS CORP C03 D13 *J5 4085-966
Dog-foods of improved edibility - B/33

GENO 03.02.78 GENERAL FOODS CORP C03 D13 (D12) =DT 2901-483
Proteinaceous fibres having meat-like consistency - 42430B/23

GENO 03.02.78 GENERAL FOODS CORP C03 D13 (D12) =GB 2013-560
Proteinaceous fibres having meat-like consistency - 42430B/23

GIVA 09 09 74 GIVAUDAN L & CIE SA D16 E15 =CS 7505-695
Humulones e.g. cohumulone from oxidation of desoxy cpds - 22639X/13

GIVA 09 09 74 GIVAUDAN L & CIE SA D16 E15 =DS 2539-014
Humulones e.g. cohumulone from oxidation of desoxy cpds - 22639X/13

*GLAB/ 02.02 78 GLABE E F C03 D13 *GB 2013-470
Sodium di:acetate, dehydrated whey feed additive mixt. - 60232B/33

*GODO- 24 01.78 GODOLLOI AGRARTUDOM D16 *HU T016-834
Fermenting vat with mixer, water distributor and air blower - B/33

*GORS/ 16.01.78 GORSKY E D15 *US 4163-035
Aerator for aquarium - 61498B/33

GRAC 11.01.78 GRACE W R CO D17 =US 4162-926
Spray drying solns. contg mixture of sugars - 37194B/20

*GRAI 27.04 78 GRAIN PROCESSING CORP D13 (D21) *US 4163-010
Protein isolation from corn steep liquor - 61488B/33

*GREE/ 29.04.77 GREEN G G D13 *US 4162-972
Apparatus for treatment of turbid liquid - 61469B/33

GREO 20.06.75 GREFCO INC A93 D22 E14 L02 (A25) =DS 2626-565
Low penetration barrier coating for porous surfaces - 70404X/37

*GULY/ 14.06.77 GULYI M F D16 *SU -631-530
Catalase and gluco-oxidase microbiological prodn. - 61320B/33

HAAS/ 11.02.71 HAAS F D11 =DS 2206-644
Wafer biscuit prodn machine - 56819T/36

HAJT- 03.11.76 HAJTOMUVEK ES FESTO D15 J01 =HU T016-784
Oil-water emulsions treated by macro-filter and hydrocyclone - 35167A/20

*HASE 19.12.77 HASEGAWA KK B05 D23 E17 *J5 4084-511
Cis- or trans-5-octene-1,3-diol and corresp. 1-acetate - 60585B/33

*HASH/ 17.12.77 HASHIMOTO J A96 D22 *J5 4084-396
Sanitary napkin for feminine hygiene - 60575B/33

HELV- 15.07.76 HELVISOL AG A60 D16 (A93) #CA 1059-245
Filler prodn from waste matl - 81385X/44

HENK 02.01.71 HENKEL KG AUF AKTIEN D24 E16 =DS 2100-114
Plastic soap compsns - 50196T/32

HENK 27.12.76 HENKEL KG AUF AKTIEN D21 E21 =US 4162-893
Dyeing keratin materials, esp. hair, with developed dyes - 48185A/27

HENK 10.12.77 HENKEL KG AUF AKTIEN C03 D13 =J5 4085-969
Animal feedstuffs giving high feed utilisation and wt. gain - 44050B/24

HENK 27.12.77 HENKEL KG AUF AKTIEN D21 E24 =DK 7805-487
Oxidative hair dyes - 51023B/28

HENK 20.01.78 HENKEL KG AUF AKTIEN B03 C03 D13 (C02) =GB 2013-494
Animal feed mixt. for poultry, pigs, etc. - 56404B/31

HENZ 30.04.75 HEINZ H J LTD D13 =CA 1058-951
Tomato ketchup substitute contg. carrot - 45682A/25

*HILL/ 06.03.78 HILL M M C03 D12 *US 4163-064
de-shelled egg cysts obtd. from shrimp eggs - 61503B/33

HITA 11.07.75 HITACHI KK D15 J03 =J7 9020-196
Electrodialysis of aq. salt soln. contg. fluoride - 16992Y/10

*HITF 13.12.77 HITACHI SHIPBLDG ENGG KK C03 D22 E16 F09 (E13) *J5 4084-004
Wood preservation process - 60513B/33

*HITF 13.12.77 HITACHI SHIPBLDG ENGG KK C03 D22 E16 F09 (E13) *J5 4084-005
Wood fumigation - 60514B/33

*HITF 13.12.77 HITACHI SHIPBLDG ENGG KK C03 D22 E19 F09 (E36) *J5 4084-006
Wood fumigation method - 60515B/33

*HITF 13.12.77 HITACHI SHIPBLD ENGG KK C03 D22 E16 F09 (E13) *J5 4084-007
Fumigating wood - 60516B/33

*HITF 16.12.77 HITACHI SHIPBLD ENGG KK D15 *J5 4083-680
Treating sludge of high water content - 60424B/33

*HITG 19.12.77 BABCOCK-HITACHI KK D15 M14 *J5 4084-873
Preventing corrosion of copper pipe in desalination appts. - 60675B/33

*HITG 19.12.77 BABCOCK-HITACHI KK D15 *J5 4084-874
Prodn. of potable water from sea-water - 60676B/33

*HITG 19.12.77 BABCOCK-HITACHI KK D15 *J5 4084-875
Appts. for mfg. plain water from sea water - 60677B/33

HITJ 11.07.75 HITACHI ENGINEERING KK D15 J03 =J7 9020-196
Electrodialysis of aq. salt soln. contg. fluoride - 16992Y/10

*HITK 06.02.78 HITACHI METAL KK D21 L03 M26 *DT 2820-377
Palladium contg. magnetic alloy - 60129B/33

HOBA- 02.07.75 HOBART CORP D12 =CA 1058-955
High speed depositor for food paste prod. esp. beefburger - 25637Y/15

HOBA- 19.02.76 HOBART CORP D12 =CA 1058-813
Meat cleaning machine has cylindrical drive cage - 63308Y/36

*HOKP 12.12.77 HOKUETSU PAPER MILL KK A97 B04 D16 (A11) *J5 4084-091
Prodn. of cellulose from Streptomyces strain - 60549B/33

HOKT 13.07.73 HOKKAIDO COLLIERY STEAMS B04 D16 =J5 0052-229
Antigen for complement reaction of serum in lung disease - 60931B/33

*HOKT 13 07.73 HOKKAIDO COLLIERY STEAMS B04 D16 *J7 9020-573
Antigen for complement reaction of serum in lung disease - 60931B/33

*HONS 19.12.77 YAKULT HONSHA KK D13 (D16) *J5 4084-056
Treating apple puree with beta-galactosidase - 60538B/33

ICIL 23.12.77 IMPERIAL CHEM INDS LTD C03 D22 G02 H08 (D15 G03) =DT 2855-695
1-Thiocyanato-8-substd. naphthalene biocides - 47159B/26

*IDEK 15 12.77 IDEMITSU INDUSTRIES KK B05 D16 E16 *J5 4084-093
Glutathione-contg. liquor prodn - 60550B/33

INFL 01.05.74 INT FLAVORS & FRAGR INC D23 E13 =J7 9020-498
Isochromans prodn from 3-arylpropan-1-ols - 70510W/42

INFL 27 01 78 INT FLAVORS & FRAGR INC D23 E15 (D18) =NL 7900 328
1 (2,6,6-Trimethyl-1,3-cyclohexadien-1-yl)-1,3 butane-di:one - 47067B/25

*INFL 27.01.78 INT FLAVORS & FRAGR INC B07 D13 E15 (B05) *US 4163-068
Enhancing aroma or taste of foodstuffs etc. - 61506B/33

*INME- 03.02.78 IND MEC ARZIGNANO D18 *GB 2013-715
Continuous skin fleshing machine with two opposing sections - 60265B/33

INSP 24.12.71 INST PASTEUR B07 D16 =DS 2262-427
Isolation of immunostimulating agents - 39098U/28

*INTE- 03 12.71 INTERCOOP KERESKEDE D13 *SU -606-532
Grain feeder supplying a drier - 61089B/33

INTE- 06.12.77 INTERMEDICAT GMBH A96 D22 (A17 A26) =BR 7807-995
Heart surgery prostheses mfr. - 44295B/24

*INTT 06 02.78 DEUTSCHE ITT IND D15 F09 *DT 2903-548
Dual bacteria-contg. waste water e.g. sulphite liquor treatment - 60158B/33

INTT 06.02.78 ITT INDUSTRIES INC D15 F09 =GB 2013-646
Dual bacteria-contg. waste water e.g. sulphite liquor treatment - 60158B/33

*IRCE 31.08.67 INST RECH CHIM BIOL APPL B05 D22 E14 *NL 7900-873
Prepn. of 2-di:chlorobenzyl-6-nitro-4-tert.-butyl phenol cpds. - 60967B/33

ISHI- 20.12.77 ISHIGAKI KIKO CO D15 =BR 7807-765
Sewage sludge dewatering filter press - 47396B/26

*JACO/ 03.05.78 JACOBI H D D22 E17 *DL -136-214
Sterilisation of heat-sensitive goods - 59984B/33

*JACO/ 03.05.78 JACOBI H D D22 E17 *DL -136-215
Sterilisation of heat-sensitive goods - 59985B/33

JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A97 D18 F04 J01 =NO 7803-790
Cigarette filter contg. cellulose di:acetate and cellulose fibres - 04098B/03

JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A88 D18 F04 (A11) =NO 7803-904
Mfg. synthetic fibre sheet for cigarette filter tips - 18063B/10

JOHM 03 09.74 JOHNS MANVILLE CORP A97 D13 E33 =CA 1058-950
Chill-proofing vinegar, beers, fruit juices - 18760X/10

JOHS 26.01.78 JOHNSON S C & SONS INC D21 E33 (E32) =DT 2903-011
Deodorant and/or antiperspirant stick compsn. - 58550B/32

JOHS 26.01.78 JOHNSON S C & SONS INC D21 E33 (E32) =NL 7900-544
Deodorant and/or antiperspirant stick compsn. - 58550B/32

KABI 05.12.74 KABI AB B04 D16 =US 4162-941
Polypeptide chromogenic substrates for serine proteases - 31921X/18

*KAIS/ 26.05.77 KAISALA V K B05 D16 *SU -631-528
Cytidine-di:phosphate choline pharmaceutical prodn. - 61318B/33

*KAKE 14.12.77 KAKEN CHEM KK B03 D16 *J5 4084-576
Anticoccidial antibiotic 6016 - 60613B/33

KAKY 28.12.77 KAKENYAKU KAKO CO L B04 D16 =SW 7813-269
Straight chain peptide type antibiotics K 582 M - 51279B/28

*KANF 09.12.77 KANEGAFUCHI CHEM KK B04 D16 *J5 4084-086
Fermentative prodn. of hydantoinase standard sample - 60544B/33

*KANK- 19.12.77 KANKYO GIJUTSU KAIH D15 *J5 4084-353
Treating exhaust water exuded from city waste - 60573B/33

KAOS 30.09.75 KAO SOAP KK A97 D25 E19 =GB 1550-662
Granular or powdery nonagglomerating detergent compsn. - 09451Y/06

KARL/ 06.01.75 KARLSON E L D15 J01 =CA 1059-660
Deionization appts including endless belt ion exchangers - 70456W/42

*KATS/ 30.03.76 KATSAI B E D13 *SU -579-979
Separating peas into first grade and over-ripe - 61063B/33

KAWA- 16.01.75 KAWAKEN FINE CHEM CO B03 D21 E12 (D22) =J7 9020-497
Chlorohydroxy-aluminium allantoinate prodn. - 67647X/36

*KAZK 25.04.77 KAZAN KIROV CHEM TECHN D16 J04 *SU -631-173
Liquid-gas contactor for blood oxygenation or effluent processing - 61143B/33

KEIL/ 25.11.77 KEIL W A91 D15 J01 =BR 7807-731
Water softening appliance - 33443B/18

KEMA 10.05.77 KEMA NOBEL AB C03 D22 E19 F09 =DL -135-852
Fungicidal preparations for e.g. wood preservatives - 91648A/51

KEME= 26.12.77 KEMEROVSK CHEM IND A21 D15 (A97) =SW 7811-068
Treating waste water from phenol-formaldehyde resin mfr. - 49355B/27

KEMI- 28.10.77 KEMI OY D17 E17 F09 (E13) =J5 4085-287
Xylan, xylose and xylitol prodn. - B/25

KEND 08.01.75 KENDALL CO A96 D22 F07 =CA 1059-303
Surgical sponge with indicator opaque to X-rays - 42057X/23
*KIFO= 31.12.74 KIEV FOOD IND TECH D17 J01 *SU -547-474
Continuous vacuum crystalliser for sugar etc. - 61006B/33
*KIFO= 01.06.77 KIEV FOOD IND TECH D17 *SU -631-137
Combined sugar beet chipper and electro-plasmolyser - 61135B/33
*KIKK 13.12.77 KIKKOMAN SHOYU KK D13 (D16) *J5 4084-068
Mfg. lactic acid-contg. drink of enhanced taste - 60542B/33
*KIPO= 22.06.77 KIEV POLY D16 *SU -631-214
Yeast separator control system - 61168B/33
KNVS 13.12.75 KERNENERGIE VERWERTUNG D15 =J7 9020-473
Water desalination by reverse osmosis - 45410Y/26
*KOCK/ 23.02.72 KOCKEN A D12 *NL 7902-171
Feed system for sepg. and orienting shrimps before peeling - 60968B/33
*KODA/ 16.12.77 KODA K D15 *J5 4083-683
Device for fresh water prodn. from sea water using solar energy - 60427B/33
*KOIZ/ 15.12.77 KOIZUMI T C03 D13 *J5 4085-967
Feedstuff with high protein, carbohydrate and digesting enzyme content - 60877B/33
*KOMJ/ 19.08.76 KOMJATI S D15 *HU T016-803
Two-stage degassing appts. - B/33
*KUBI 19.12.77 KUBOTA KK D15 *J5 4085-549
Photo-oxidative treatment of waste water to reduce colour and COD - 60848B/33
KURE 30.08 76 KUREHA KAGAKU KOGYO B04 D16 =US 4162-939
Basidiomycetes e.g. coriolus veriscolor cultivation - 18072A/10
KURE 18.12.77 KUREHA CHEM IND D25 E12 =J5 4083-913
Detergent compsn. with imido bis-sulphate and aluminosilicate builder - 53007B/29
KURK 22.10.73 KURITA IND KK D15 J01 =J7 9020-071
Waste water purifn. - 08103X/05
*KURK 16.12.77 KURITA WATER IND KK D15 *J5 4083-688
Sea water desalination appts. - 60430B/33
*KURO/ 17.12.77 KURODA T A97 D22 *J5 4084-033
Deodorising dead bodies - 60529B/33
KUSE- 06.06.77 KUSEL EQUIPMENT CO D13 =CA 1059-053
Portable cheese press frame - 25600B/13
KYOW 23.07.73 KYOWA HAKKO KOGYO B03 D16 =DS 2435-160
Fortimycin A as antibacterial agent - 09167W/06

LABO 27.12.77 LABOFINA SA A97 D25 H03 (D15) =NO 7804-351
Surfactant compsn. for treating oil slicks and beaches - 47162B/26
*LAKO/ 13.06.77 LAKOTA V C03 D13 *CS 7703-862
Calcium-sodium phosphate mineral additive for feedstuffs - B/33
*LAST/ 03.01.78 LASTOVKA R D15 K08 *CS 7800-081
Uranium-contg. waste water purification - B/33
*LEBE/ 06.12.76 LEBEDEVA E V D25 *SU -631-525
Metal component surface cleaning compsn. - 61315B/33
*LEDN/ 02.12.77 LEDNICKY D D16 *CS 7708-014
Fermentation stopper - B/33
*LERE= 17.01.77 LENGD REFRIG IND D12 *SU -603-363
Sausage casing meat stuffing injection filler - 61085B/33
LIGG 30.10.75 LIGGETT & MYERS INC A88 D18 =CA 1059-401
Filter-tip for cigarettes - 63505X/34
*LIOC 14.12.77 LION DENTIFRICE KK D13 *J5 4084-040
Emulsified foods, e.g. mayonnaise or salad dressing, prepn. - 60532B/33
LIOY 10.09.73 LION FAT & OIL KK D25 =DS 2443-073
Free-flowing granular washing and cleaning compsn. - 21320W/13
*LIOY 14.12.77 LION FAT & OIL KK A97 D25 *J5 4082-853
Washing stained tableware in automated washer - 60295B/33
*LIOY 14.12.77 LION FAT & OIL KK A97 D25 E12 (A25 E16) *J5 4083-004
Liq. detergent compsn. which absorbs little oxygen - 60304B/33
*LIOY 19.12.77 LION FAT & OIL KK A97 D15 (A25 A26) *J5 4083-912
Cleaning compsn. for use in automatic dishwasher - 60457B/33
*LOGA- 06.02.78 LOGAN SRL A96 D21 E17 (A26) *GB 2013-492
Non-foaming emollient for shaving - 60235B/33

MACA- 14.06.76 MACANDREWS & FORBES D13 =US 4163-067
Recovery of section from liquorice root - 11010A/06
*MACK/ 09.01.78 MACKO O C03 D13 *CS 7800-176
Nutritious feedstuff - B/33
*MAED- 17.12.77 MAEDA KASEI KK C03 D16 *J5 4085-909
Seed contg. tablet e.g. for aquatic rice - 60868B/33
*MARY= 05.07.76 MARY POLY D16 *SU -582-226
Lightweight structural concrete mix - 61066B/33
MATT- 13.07.76 MATTHEY RUSTENBURG D25 M28 =US 4162-950
Recovering traces of platinum gp. metals from waste solns. - 06746A/04
MEIJ 26.04.72 MEIJI SEIKA KK C03 D22 E17 F09 =DS 2320-415
2,3,3-triiodoallyl alcohol compsns - 72652U/48
*MERC- 31.01.78 MERCER F B LTD D13 *DT 2903-091
Food prod. consisting of opt. filled, pref. tubular net - 60155B/33
MERI 25.11.74 MERCK & CO INC B02 C02 D13 (D16 D22) =SU -576-967
Broad spectrum antibiotic thienamycin - 31696X/17
MERI 19.09.77 MERCK & CO INC B04 C03 D16 =J5 4084-024
Prepn. of antigenic and immunogenic herpes virus sub-unit - 26475B/14
MERI 29.12.77 MERCK & CO INC B05 D22 E14 =DK 7805-846
Salicylic acid derivs. prepn. - 03944B/02
MERI 29.12.77 MERCK & CO INC B05 D22 E14 =NO 7804-317
Salicylic acid derivs. prepn. - 03944B/02
METG 24.06.75 METALLGESELLSCHAFT AG D15 E14 H09 =US 4162-902
Phenol removal from effluent water from coal gasification - 04057Y/03
*MEYH- 10.05.78 MEYHALL CHEMICAL AG A11 C03 D17 H01 *US 4162-925
Phosphated locust bean gum soluble in cold water - 61444B/33
MEYN/ 28.11.76 MEYN P D12 =GB 1550-501
Machine for cleaning fowl stomachs when giblets are removed - 19713A/11
MEYN/ 12.01.77 MEYN P D12 =GB 1550-591
Extractor for cloaca of poultry - 34990A/20
MEYN/ 12.01.77 MEYN P D12 =GB 1550-592
Extractor for cloaca of poultry - 34990A/20
MGAF 21.12.74 MAGYAR ASVANYLOLAI FOLDG D15 =DS 2542-167
One-step particle-flotation from waste-waters - 52482X/28
MILK- 27.02.74 MILKFOOD AB C03 D13 =CA 1058-947
Dry powdered foods or animal feeds - 59179W/36
*MINA 24.01.78 UK SEC FOR DEFENCE A97 B04 D16 J01 *WP 7900-541
Affinity chromatography media for protein binding - 61546B/33
*MITK 16.12.77 MITSUI TOATSU CHEM INC A91 D15 J01 *J5 4084-355
Sepg. oil from waste water - 60574B/33
*MITO 21.12.77 MITSUBISHI HEAVY IND KK D15 *J5 4085-551
Biological treatment of waste water contg. dithionic acid and ammonia - 60849B/33
*MITQ 19.12.77 MITSUBISHI ELECTRIC CORP D15 *J5 4084-871
Sludge treatment with improved dewatering efficiency - 60674B/33
*MITR 14.12.77 MITSUBISHI RAYON KK A14 D15 (A91) *J5 4083-085
Acrylamide polymer prepn. for use as waste water coagulant - 60355B/33
MJOL- 23.11.77 MJOLKCENT EKONOMISK D13 =J5 4084-067
Low calorie margarine mfr. - 24016B/13
MLCW 28.12.77 BYK MALLINCKRODT CH A96 B04 D16 (A26) =DK 7805-815
Stabilised, insolubilised biochemical products - 31618B/17
MLCW 28.12.77 BYK-MALLINCKRODT CH A96 B04 D16 (A26) =SW 7813-017
Stabilised, insolubilised biochemical products - 31618B/17
*MOEN= 25.04.77 MOSC ENG CON INST D15 *SU -631-455
Settling tank for purifying natural waters - 61245B/33
MOKA/ 07.04.76 MOKA H D11 =DL -135-978
Bread loaf cooling conveyor - 77769Y/44
*MOKO= 01.03.77 MOSC KODRU ORCHARD VINE D16 *SU -631-533
Crystalline suspension in wine removal - 61323B/33
*MOLI= 26.05.77 MOSC LIQUOR VODKA WKS D16 *SU -631-531
Vodka from wheat source alcohol prodn. - 61321B/33
*MOMO= 30.03.76 MOSC MOSVODOKANALNI A91 D15 (A26) *SU -560-839
Removal of pigment contaminants from aq. effluents - 61028B/33
MONS 08.12.75 MONSANTO CO D13 =GB 1550-703
Non-flatulence producing soya prod. - 41659Y/24
*MONS/ 30.05.78 MONSON A A D15 *US 4162-976
Sewage treatment and disposal system - 61472B/33
*MOPU= 20.04.77 MOSC PUBLIC PROP D16 *SU -631-135
Agar-type material prodn. from Black sea algae - 61133B/33
*MORF/ 13.11.72 MORFIN-ALVAREZ R D17 *US 4162-927
Apparatus for crystallising sugar - 61445B/33
MULL- 30.07.75 FA MULLER H C03 D13 =CA 1058-949
Whey conversion into food and feedstuff prods. - 13213Y/08
*MUNT 26.10.76 MUNTERS C AB D22 F09 J01 L02 *US 4162-934
Sorption bodies prepd. from asbestos paper - 61450B/33

NAGA 27.01.78 VEB KOMBINAT NAGEMA D12 =NL 7810-177
Sausage filling machine - 58327B/32
NAGE/ 28.01.76 NAGEL H H B04 D16 =DS 2603-122
Drug-potentiating e.g. ampicillin-potentiating glycoprotein prodn. - 67020Y/38
*NAKA/ 27.05.70 NAKAMURA T D12 *J7 9020-587
Preserving the freshness of fish - 60933B/33
NAKA/ 14.04.71 NAKAMURA T D12 =J4 7035-171
Maintaining freshness of animal meat etc. - 60934B/33
*NAKA/ 14.04.71 NAKAMURA T D12 *J7 9020-588
Maintaining freshness of animal meat etc. - 60934B/33
*NAKA/ 14.12.77 NAKAMURA R A97 C03 D22 F09 (A17) *J5 4084-009
Colouring of logs - 60518B/33
*NASA- 15.12.77 NASA KK C03 D13 *J5 4085-968
Feedstuff for cows, pigs, etc. - 60878B/33
NATR 17.01.78 NATIONAL RES DEV CORP A14 D21 L02 M22 (A81 A92 A96 D22) =WP 7900-521
Hardenable carboxylate cement compsn. - 56696B/31
NATT 15.12.77 NAT STARCH & CHEM CORP A11 D17 =J5 4083-983
Prepn. of highly substd. polysaccharide deriv. - 93173A/51
*NEOS- 16.12.77 NEOS KK D21 E37 (E12) *J5 4084-037
Chapped hands preventive agent - 60531B/33

NEST 31.03.71 SOC PROD NESTLE SA B04 D16 =DS 2215-160
Water insoluble enzymatic prepn - 68390T/43
NEST 07.06.74 SOC PROD NESTLE SA D13 =CA 1058-952
High quality caseine prodn. from skimmed milk - 85817W/52
NEST 25.01.78 SOC PROD NESTLE SA D12 E17 =GB 2013-469
Aromatising material imparting pork flavour - 56529B/31
NEST 06.02.78 SOC PRODS NESTLE D13 =DT 2855-704
Improving consistency of reconstituted purees esp. of vegetables - 47198B/26
*NICA 19.12.77 NIPPON CARBIDE KOGY KK A41 D22 E36 *J5 4084-863
Deodoriser for treating malodorous polymerising ester(s) - 60667B/33
*NIFE- 17.12.77 NIPPON FELLOW KK D16 *J5 4085-941
Activator and compost for mushroom cultivation - 60870B/33
*NIGY 14.12.77 NICHIRO GYOGO KK D12 *J5 4084-063
Euphausia Superba powder prodn. - 60539B/33
*NIPE 14.12.77 NIPPON PETROCHEM KK A97 D18 *J5 4084-001
Re-tanning and greasing agent - 60511B/33
*NIPE- 17.12.77 NIPPON PEROXIDE KK C03 D16 *J5 4085-909
Seed contg. tablet e.g. for aquatic rice - 60868B/33
*NIRA 15.12.77 UNITIKA KK A96 D22 (A23) *J5 4083-095
Antithrombotic polyamide prepn. - 60363B/33
*NIRA 15.12.77 UNITIKA KK A96 D22 *J5 4084-397
Anticoagulative material for artificial heart, kidney etc. - 60576B/33
*NIRA 15.12.77 UNITIKA KK A96 D22 *J5 4084-398
Imparting antithrombotic nature to medical material - 60577B/33
NISC 27.12.77 NISSAN CHEM IND KK D17 E12 F09 M12 (D16) =SW 7813-278
Removal of calcium oxalate encrustations - 49436B/27
*NISW 16.12.77 NISSHIN OIL MILLS KK D13 *J5 4083-910
Oxidn. resistant, transparent edible oil prodn. - 60455B/33
*NISW 16.12.77 NISSHIN OIL MILLS KK D13 *J5 4083-911
Prepn. of oil contg. lecithin and L-ascorbic acid ester - 60456B/33
*NISY 14.12.77 NIPPON SYNTH CHEM IND D12 *J5 4084-064
Prodn. of powdered Euphausia Superba - 60540B/33
NITL 26.08.76 NITTO ELECTRIC IND KK A88 D15 J01 =J7 9020-470
Semipermeable membrane support pipe - 30972A/17
*NITT 14.12.77 NITTO CHEM IND KK . A14 D15 (A91) *J5 4083-085
Acrylamide polymer prepn. for use as waste water coagulant - 60355B/33
NMHB 08.09.77 NORDISCHER MASCHINE D12 =DS 2740-459
Fish position device - 22248B/12
*NMHB 18.04.78 NORDISCH MASCH R BAADER D12 *DL -135-993
Fish processing machine conveyor - 59939B/33
NNSH 21.11.77 NIPPON SHINYAKU KK B04 D16 =J5 4084-094
Hypoglycaemic piperidine deriv. moranolin prodn. - 40914B/22
NOVO 06.02.78 NOVO IND A/S D13 =DT 2904-239
Decolourised blood human foodstuffs - 58024B/32
NUTR- 30.12.77 NUTRIDAN ENG A/S D12 =DK 7705-868
Animal carcass branding tool - 51143B/28

*ODFO= 10.06.75 ODESS FOOD SUPPLY D13 *SU -631-138
Leaf-remover for processing onions and garlic - 61136B/33
*OHSH- 13.12.77 OHSHIKA SHINKO KK C03 D22 E36 F09 *J5 4084-008
Bleaching method for wood, board etc. - 60517B/33
*OKIM/ 19.12.77 OKIMASU T B04 D16 *J5 4084-089
Fixation of enzymes - 60547B/33
OLIN 28.10.76 OLIN CORP D18 E15 =CA 1059-400
Aromatised filter cigarette - 33748A/19
*OLIN 24.11.76 OLIN CORP D25 E13 (D22) *US 4162-897
Poly:chloro:isocyanurate prodn. process effluent gases analysis - 61428B/33
OREA 16.05.74 L'OREAL SA A96 D21 (A26 D25) =CA 1059-436
Quaternised polymers for cosmetic compsns. - 80221W/49
OREA 19.08.77 L'OREAL SA D21 E14 (E12) =GB 2013-728
Hair colouring compsn. contg. oxidn. dyes - 14189B/08
OREA 02.02.78 L'OREAL SA A96 B04 D21 (D22) =GB 2013-609
Conserving aq. dispersions of liposome microcapsules - 58011B/32
OSAU 22.04.70 OSAKA MICROBI UNIV B04 C03 D16 =DS 2119-688
Viral vaccine by quail embryo culture - 70399S/44

*PANN/ 23.06.72 PANNIKOV V D C04 D15 *SU -443-015
Livestock farm effluent treatment - 60981B/33
PARC- 14.02.74 PARCA-NORRAHAMMAR D15 =CA 1059-659
Sewage purification using rotary discs - 42714W/26
PART- 06.05.76 ETUD PARTICIP OHF B04 D21 =US 4163-049
Sunburn treatment compsn. for oral or topical use - 77538Y/44
PASE 30.01.78 PASSAVANTW MICHELBACHER D15 J01 =NL 7900-033
High rate overflow assembly for purified water from gravity separator - 33410B/18
PENT- 17.08.76 PENTAPHARM AG B04 D16 =DS 2734-427
Isolation of enzymes from snake venom - 90110Y/51
PETE- 12.05.77 GERHARD PETER KG D12 =DL -135-886
Machine fills sausage casing supplied flat wound on reel - 67138A/38
PETE- 22.11.77 PETERSON PURITAN B07 D21 E19 G04 =J5 4084-883
Water-in-oil emulsion contg. modified montmorillonite - 40918B/22
*PETE- 22.03.78 PETERS MACH CO D11 *US 4162-882
Dispensing creme to surface of two streams of biscuits - 61423B/33
PETR- 03.02.78 PETRIS EFTF C F D13 =DT 2904-029
Chewing gum contg. sorbitol as sweetener - 58020B/32
PETR- 03.02.78 PETRIS EFTF I/S D13 =GB 2013-474
Chewing gum contg. sorbitol as sweetener - 58020B/32
PFIZ 16.04.76 PFIZER INC B02 C02 D22 #J7 9020-517
(6)-Acylamino-(3)-tetrazolyl-penams useful as antibacterials - 14581Y/09
PFIZ 02.08.76 PFIZER INC D23 E13 (D13) =J7 9020-500
Gamma-pyrones prepn. esp. from furfuryl alcohol cpds. - 00033A/01
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =DK 7805-074
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
PFIZ 03.01.78 PFIZER INC B03 D22 E13 =DK 7900-015
Antibacterial 11-alkanoyl-4-isonitrile oleandomycin cpds. - 84004A/46
PFIZ 29.08.78 PFIZER INC B03 C02 D22 E13 (D15) =DK 7805-077
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
PHAR- 29.09.76 PHARMACO INC A88 B07 D16 J01 (A96 D15) =J7 9020-472
Microporous ultrafiltration membranes - 25705A/14
*PINE- 28.11.77 PINETTE-EMIDECAU D17 *BR 7807-759
Extraction of juice from a material sample, esp. sugar cane - B/33
PINT/ 03.02.78 MELLO RIBEIRO PINTO D17 #DT 2804-592
Continuous decanting clarifier, esp. for sugar juice - 38563A/22
PITT 02.06.75 PPG INDUSTRIES INC A35 D22 J04 =CA 1059-092
Ultraviolet light irradiation plant - 94671X/51
PLAC 24.11.77 MAX PLANCK GES WISSENSCH B05 C01 D13 E11 (D25) =J5 4084-530
Ammonio-alkyl phospholipid analogues - 42546B/23
*PLAN= 27.12.73 PLANT PROTECTION B04 D16 *SU -507-055
Microbiological nisin prodn. - 60985B/33
*PLAS- 11.02.75 PLASTOMEDICAL SCI A14 B07 C03 D21 (A91 A96) *US 4163-092
Cationic hydrogels based on hydroxyalkyl acrylate and methacrylate - 61519B/33
*POLA/ 20.05.76 POLAK J D15 *CS 7603-350
Reactor for partial decarbonisation of water with flocculate - B/33
*PORS/ 28.04.78 PORSTMANN T B04 C03 D16 *DL -136-140
Peroxidase-labelled protein purificn. - 59960B/33
POTT/ 26.07.77 POTTHARST T C D15 =GB 2013-509
Fresh water prodn. from sea water - 33894B/18
PRIN 26.01.78 PRINCETON APPL RES D15 J04 =NL 7812-243
Effluent stream analysis appts. using mercury drop electrode - 21891B/11
PROC 15.11.67 PROCTER & GAMBLE CO B04 D25 (D16) =DS 1808-834
Enzyme preparations - 40922F/00
PROC 23.12.68 PROCTER & GAMBLE CO A25 D25 (A97) =DS 1964-088
Amylolytic enzyme compositions for launder - 45020R/25
PROC 10.01.74 PROCTER & GAMBLE CO A23 D13 (A97) =CA 1059-121
Polyol-fatty acid polyester prepn - 49883X/26
PROC 13.01.75 PROCTER & GAMBLE CO A97 D21 =CA 1059-002
Keratinous materials protected against detergents - 56322X/30
PROC 18.03.75 PROCTER & GAMBLE CO A97 D25 (A14) =CA 1059-003
Hard surface cleaning compsn. - 59551X/31
PROC 18.03.75 PROCTER & GAMBLE CO A97 D25 E17 (A14 E14 E34) =CA 1059-004
Cleaning agent for hard surfaces, e.g. flooring - 72026X/38
PROC 30.05.75 PROCTER & GAMBLE CO D22 F09 =DS 2623-905
Two ply tissue paper has plies separated in distinct zones - 92423X/50
*PROC 24.06.76 PROCTER & GAMBLE CO A97 D25 (D16) *US 4162-987
Enzyme-contg. automatic dishwashing detergent compsns. - 61478B/33
PROC 01.06.77 PROCTER & GAMBLE CO D25 E37 =NL 7815-003
Detergent tablet esp. for automatic dishwashing machine - 88222A/49
PROC 03.06.77 PROCTER & GAMBLE CO D13 E13 =NL 7815-002
Dry mix for forming dietetic carbonated instant beverage - 88223A/49
PROC 21.06.77 PROCTER & GAMBLE EU A97 D25 E33 (A14 E14 E17 E34) =NL 7815-009
Low phosphate fabric washing detergent compsn. - 02331B/02
PROC 23.06.77 PROCTER & GAMBLE CO D25 E17 (E36) =NL 7815-012
Suds regulated detergent compsn. - 02332B/02
PROC 21.11.77 PROCTER & GAMBLE CO A87 D25 F06 =BR 7807-642
Textile conditioning compsn. - 40968B/22
PROC 21.11.77 PROCTER & GAMBLE CO A87 D25 E19 F06 =BR 7807-644
Textile softening compsn. - 40886B/22
*PROC 13.03.78 PROCTER & GAMBLE CO D25 *US 4162-983
Body imparting fabric treating compsn. - 61476B/33
*PROD= 11.01.77 PROD PROCESS AUTOMA D16 *SU -631-534
Wine storage-reservoir level compensator - 61324B/33
*PROH/ 21.07.77 PROHASKA F D11 *HU T016-779
Crescent-shaped confectionery prods. mfr. - B/33
*PROM- 02.02.78 PROMIH SA D16 *GB 2013-885
Appts. for inoculating or transferring microbiological cultures - 60278B/33

*QPPP 14.12.77 Q.P. CORP D13 *J5 4084-041
Oil-in-water emulsified food material prodn. - 60533B/33
QUAK 06.11.74 QUAKER OATS CO C03 D12 =CA 1058-956
Moist marbled meat prods. prodn., from coloured doughs - 64638Y/36

*RAGH/ 07.02.78 CHARUDATTAN R C03 D16 *US 4162-912
Biological herbicide compsn. comprising Araujia mosaic virus - 61438B/33

RALS 18.05.70 RALSTON PURINA CO D13 =J7 9020-589
Simulated meat prodn - 72004S/45

RAYP- 16.08.76 RAYPAK INC D15 J01 =J7 9020-471
Support and sealing member for osmosis and ultrafiltration appts. - 56053A/31

RESE 01.03.72 RESEARCH CORP D15 J03 =DS 2304-654
Inactivating pathogens in sewage - 22249U/16

RHEE 03.12.75 RHEEM MFG CO D12 =CA 1058-957
Sausage stuffing horn with telescopic extension - 37799Y/21

RHON 10.07.75 RHONE-POULENC INDUSTRIES A25 D25 E19 F06 (A87) =DS 2630-935
Hydrophilic polyacetal as antisoil agent for textiles - 05648Y/04

RICT 27.04.77 RICHTER GEDEON VEGY D15 J04 =DL -136-001
Packing elements for gas-liquid contact apparatus - 61958A/35

*RIED/ 04.11.77 RIEDEL H D11 *DL -135-992
Crusty roll dough preparation - 59938B/33

RIEG 25.07.74 RIEGEL TEXTILE CORP D22 F04 =CA 1059-474
Disposable diapers from laminate of permeable and impermeable layers - 72826W/44

*RITT/ 17.11.77 RITTER G D11 *DL -135-991
Wheat-meal dough moulding process - 59937B/33

*ROGO/ 01.04.77 ROGOV V P D15 *SU -631-216
Electrolytic removal of heavy metal ions from water - 61169B/33

ROHM 11.11.74 ROHM & HAAS CO A97 D15 F09 =CA 1059-661
Effluent purificn. in paper esp kraft pulp prodn - 39955X/22

ROHM 23.11.77 ROHM & HAAS CO D22 =BR 7807-625
Removing bacteria from liq. - 40964B/22

ROHM 23.11.77 ROHM & HAAS CO D22 =J5 4084-880
Removing bacteria from liq. - 40964B/22

ROQF 10.04.73 ROQUETTE FRERES SA D17 E13 (D16) =DS 2417-642
Enzymatic isomerisation of glucose to fructose - 74362V/43

ROUR 16.07.76 ROURE BERTRAND DUPO D23 E15 =US 4163-109
Oxo:cycloalkyl-substd. acetate ester cpds. prodn. - 06772A/04

*RUBI/ 30.05.78 RUBIO C R D12 *US 4162-558
Chuck drill powered fish scaler - 61383B/33

*RYBA/ 14.09.67 RYBAKOV A I A96 D21 (A21) *SU -549-150
Dental filling resin compsn. - 61009B/33

SAAR- 29.06.77 SAARBERG-FERNWARME C04 D15 =DL -136-133
High grade fertiliser prodn. - 02320B/02

SACH- 09.06.73 SACHS SYSTEMTECHNIK D22 J03 =DS 2329-630
Enhancement of sterilising effect of anodic oxidation - 07660W/05

SAIW 06.07.76 SANDO IRON WORKS A35 D15 F06 (A14) #CA 1059-697
Recovering polyvinyl alcohol from waste water - 79442X/43

SAKB 12.08.77 OTSUKA KAGAKU YAKUHIN D23 E15 =US 4163-111
Novel 2-cyclopentenone derivs. - 14430B/08

*SANO 08.02.78 SANDOZ-PATENT-GMBH A60 D18 E21 F06 *DT 2805-243
1,2-Metal complex diazo dyes - 60118B/33

*SANO 08.02.78 SANDOZ-PATENT-GMBH A60 D18 E21 F06 *DT 2805-306
Mixts. of 1:2-cobalt complex azo cpds. - 60125B/33

*SAVK/ 01.09.76 SAVKIN V A D13 *SU -631-524
Vegetable oil prodn. from oil-contg. fruit - 61314B/33

SCAD 20.06.78 SCA DEVELOPMENT AB A11 D22 F04 (A96) #DL -136-119
Cellulosic material for absorbent sanitary prods. - 46196A/26

SCHD 16.07.76 SCHERING AG B01 D16 =DL -136-141
Androstan-(17)-one derivs. prodn. by fermentation - 06352A/04

SCHD 16.07.76 SCHERING AG B01 D16 =DL -136-142
Androstan-(17)-one derivs. prodn. by fermentation - 06352A/04

SCHD 25.01.78 SCHERING AG B01 D16 =GB 2013-685
17-Alpha-alkoxy:alkoxy-pregn-4-ene-3,20-di:one derivs. - 56511B/31

SCHE/ 31.12.77 SCHEICHER H D22 L02 =SW 7813-406
Moulding implants, esp. dental implants, from ceramic masses - 33434B/18

*SCHM/ 24.04.78 SCHMIDT V A97 D15 H03 J01 *DL -135-895
Absorption of pollutant oil layers from water surfaces - 59903B/33

*SCHN/ 07.02.78 SCHNELL K D12 *DT 2805-035
Bone sawing machine - 60095B/33

*SCHU/ 16.01.78 SCHULTE-ELTE K-H D23 E13 *WP 7900-509
Cis-2-methyl:propenyl-4-methyl-tetra:hydro-pyran prepn. - 61537B/33

SCMZ 06.05.75 SCM CORP B05 D23 E15 =CA 1059-152
Stereoselective hydrogenation of cyclic unsaturated cpds. - 84604Y/47

SCMZ 30.05.75 SCM CORP B05 D23 E17 (D13) =CA 1059-526
Oppenauer oxidn. of allyl and benzyl alcohols - 95554X/51

SCOP 13.02.76 SCOTT PAPER CO D22 =CA 1058-930
Disposable diaper - 56741A/31

*SEIW- 14.12.77 SEIWA KASEI KOGYO K D13 E12 *J5 4084-045
Freezing foods in aq. liquor of lower freezing point - 60534B/33

*SEPI/ 17.01.77 SEPIASHVILI SH S D16 *SU -631-532
Weakly alcoholic aerated drink with improved organoleptic properties - 61322B/33

SETB 05.05.75 SERVICE EXPL IND TABACS A97 D18 =GB 1550-693
Adhesive for tobacco prods. - 72205X/39

*SHEL 09.06.67 SHELL INT RES MIJ BV D25 E14 H04 *DS 1618-911
Sulphonatable alkylate prepn. by hydrogen fluoride after-treatment - 60013B/33

SHEL 11.02.75 SHELL CANADA LTD C03 D16 H04 (D13) =CA 1059-049
Aerobic cultivation of hydrocarbon-consuming microorganisms - 65328X/35

SHEL 14.03.75 SHELL INT RES MIJ BV C03 D16 H04 =CS 7601-640
Growing methane using microorganisms - 73963X/40

*SHIM- 14.12.77 SHIMADAYA HONTEN KK D11 *J5 4084-047
Preserving uncooked noodles - 60535B/33

*SHIN- 17.12.77 SHINSHU KAGAKU KENK C03 D16 *J5 4085-909
Seed contg. tablet e.g. for aquatic rice - 60868B/33

*SHIO 15.12.77 SHIONOGI KK B04 D16 *J5 4084-095
Antibiotic ribostamycin prodn. - 60551B/33

*SHIO/ 20.12.77 SHIOTA T D22 *J5 4085-182
Foam deodorising appts. - 60753B/33

SIEI 01.02.78 SIEMENS AG D15 E19 J04 =GB 2013-882
Automatic determn. of organic substances in water - 40684B/22

SIEI 01.02.78 SIEMENS AG D15 J04 =GB 2013-883
Determn. of dissolved organic solids content in water - 42426B/23

SIEI 01.02.78 SIEMENS AG D15 E19 J04 =NL 7900-780
Automatic determn. of organic substances in water - 40684B/22

SIEI 01.02.78 SIEMENS AG D15 J04 =NL 7900-781
Determn. of dissolved organic solids content in water - 42426B/23

SIEI 01.02.78 SIEMENS AG D15 J04 =NL 7900-782
Automatic dosing of predetermined quantities of several liquids - 42427B/23

SLAG- 06.02.78 SLAGTERIERNES FORSK D13 =DT 2904-239
Decolourised blood human foodstuffs - 58024B/32

*SNOW 08.02.78 SNOW BRAND MILK PRODUCTS A97 D13 *DT 2904-632
Small ice piece-contg. ice cream mfr. - 60197B/33

SOLB 23.12.77 SOLCO BASEL AG B04 D16 =NO 7804-306
Hetero-vaccine for treatment of trichomonas syndrome - 47144B/26

SPEC- 19.02.76 SPECIAL FOODS CORP D11 =HU T016-780
High protein low carbohydrate bread - 22003Y/13

SPER 23.02.76 SPERRY RAND CORP D14 J02 =CA 1059-116
Feedstuffs mixing appts. - 41415Y/23

*STAR= 18.12.75 STARCH PROD RES D17 *SU -558-939
Starch bearing material e.g. potato grinder - 61025B/33

*STAU 11.10.77 STAUFFER CHEMICAL CO D13 *US 4163-069
Non-fat dried milk substitute - 61507B/33

STER 23.12.77 STERLING DRUG INC D22 L02 =NO 7804-110
Beta whitlockite prepn. in solid or porous form - 47146B/26

STER= 11.11.77 STERLITAMAK PETROCH A41 D22 E17 #DL -135-898
Gaseous formaldehyde recovery from aq. soln. - 51887B/28

STOC- 06.07.73 FA STOCK H D14 =DS 2334-443
Apparatus for rapid heating of canned foodstuffs - 11125W/07

*SUGA= 01.06.77 SUGAR IND RES INST D17 *SU -631-535
Sugar prodn. aq. extract purificn. - 61325B/33

*SUKO/ 21.01.77 SUKOVATY J D13 *CS 7700-400
Fruit stone pith concentrate prepn. - B/33

SUMI 18.12.77 SUMITOMO SHOJI KK D25 E12 =J5 4083-913
Detergent compsn. with imido bis-sulphate and aluminosilicate builder - 53007B/29

*SUMI- 13.12.77 SUMITOMO KAINAN KOK D15 E31 M12 *J5 4082-845
Treatment of acidic waste liquor, e.g. steel pickling effluent - 60294B/33

SUMO 16.12.76 SUMITOMO CHEMICAL KK D21 L02 (D22) =GB 1550-575
Bone implants or teeth roots for humans - 46147A/26

SUMO 28.12.77 SUMITOMO CHEMICAL KK A88 D15 J01 =DK 7805-823
Semipermeable membranes prodn. from acrylonitrile polymers - 52848B/29

SUMO 27.01.78 SUMITOMO CHEMICAL KK D15 E36 J04 =NL 7900-699
Analysis of nitrogen derived from nitrites and nitrates - 56291B/31

*SUMQ 13.12.77 SUMITOMO METAL IND KK D15 E31 M12 *J5 4082-845
Treatment of acidic waste liquor, e.g. steel pickling effluent - 60294B/33

SUNZ 24.01.75 SUN STAR DENTIFRICE B04 D13 (D22) =J7 9020-584
Antibiotic compsn for treating food, table ware, etc - 69423X/37

SWIF 25.10.74 SWIFT & CO D13 =CA 1059-364
Peanut butter of improved flavour and shelf life - 09240Y/05

*SYND- 09.02.78 SYNICAT NAT FABRICA D17 *BE -874-024
Purificn. of sugar syrup by electrodialysis - 59810B/33

*TAIH- 14.12.77 TAIHEI SHIRYO KK D12 *J5 4084-063
Euphausia Superba powder prodn. - 60539B/33

*TAIH- 14.12.77 TAIHEI SHIRYO KK D12 *J5 4084-064
Prodn. of powdered Euphausia Superba - 60540B/33

*TAIS 10.02.78 TAISHO PHARMACEUT KK B04 D16 *BE -874-037
Amylase inhibitors TAI-A and TAI-B - 59814B/33

TAKE 31.03.77 TAKEDA CHEMICAL IND KK B02 D16 =US 4162-940
Antibiotic C-15003 inhibits growth of Talaromyces avellaneus - 92050A/51

TAKE 30.12.77 TAKEDA CHEMICAL IND KK B04 C03 D16 (D22) =DK 7805-829
Antibiotic G-6302 prepd. by fermenting Pseudomonas acidophila - 49005B/27

TAKE 30.12.77 TAKEDA CHEMICAL IND KK B04 C03 D16 (D22) =SW 7813-384
Antibiotic G-6302 prepd. by fermenting Pseudomonas acidophila - 49005B 27
TAKS 19.12.77 TAKASAGO PERFUMERY KK D23 E13 *J5 4084-551
Oily substance with herbal fragrance - 60606B/33
TATL 25.01.77 TATE & LYLE LTD D16 F09 G02 (D13 D17) =DS 2803-245
Exo:cellular polysaccharide prepd. by fermentation - 40388A/23
• TEIQ 13.12.77 TEIJIN CHEMICALS KK C03 D22 E16 F09 (E13) *J5 4084-004
Wood preservation process - 60513B/33
• TEIQ 13.12.77 TEIJIN CHEMICALS KK C03 D22 E16 F09 (E13) *J5 4084-005
Wood fumigation - 60514B/33
• TEIQ 13.12.77 TEIJIN CHEMICALS KK C03 D22 E19 F09 (E36) *J5 4084-006
Wood fumigation method - 60515B/33
• TEIQ 13.12.77 TEIJIN CHEMICALS KK C03 D22 E16 F09 (E13) *J5 4084-007
Fumigating wood - 60516B/33
• TEKH= 22.10.75 TEKHENERGOKHIMPROM D15 J09 *SU -545-827
Rendering dispersed effluent harmless by burning in furnace - 60999B/33
TEXC 30.09.74 TEXACO DEV CORP D15 E37 H04 =CA 1059-663
Decompsn of metal cyanide complexes and phenols - 28583X/16
THOS 29.06.77 THOMAS PHOSPHATEFAB GMBH C04 D15 =DL -136-133
High grade fertiliser prodn. - 02320B/02
• TOKE 31.01.78 TOKYO SHIBAURA ELEC LTD D14 L01 *GB 2013-874
Cooking appliance with window - 60276B/33
TOKU 28.09.77 TOKUYAMA SODA KK D23 E17 F06 G02 =BE -874-066
Direct aliphatic carboxylic acid esterification with ethylene - 28171B/15
• TOKU 16.12.77 TOKUYAMA SODA KK A96 B04 D16 *J5 4084-088
Reaction using fixed enzyme - 60546B/33
• TOPP 14.12.77 TOPPAN PRINTING KK D13 *J5 4084-054
Sweetening and maintaining freshness of kyoho (grapes) - 60537B/33
• TOSH- 17.12.77 TOYO SHOKUHIN KOGYO D16 *J5 4085-941
Activator and compost for mushroom cultivation - 60870B/33
• TOXN 04.11.77 TOYO BREWING KK B04 D16 *J5 4084-090
Solvent mixt. for activating beta-galactosidase - 60548B/33
TOYJ 08.10.74 TOYO SODA KK D15 J01 =J7 9020-272
Liquor contg. dissolved sulphites, sulphides and susp. minerals - 39180X/21
TSUB 21.04.72 KUMIAI CHEM IND KK B02 C02 D13 (D16) =J4 9005-765
Growth-promoting feed additive - 60910B/33
• TSUB 21.04.72 KUMIAI CHEM IND KK B02 C02 D13 (D16) *J7 9020-431
Growth-promoting feed additive - 60910B/33
• TSUB 06.02.78 KUMIAI CHEM IND KK D16 *DT 2904-225
Beta:galactosidase powder cultured from penicillium multicolour - 60177B/33
• TSZE 08.02.78 TATABANYAI SZENBANYAK D15 *DT 2904-816
Floating aerator structure - 60204B/33
TVTI- 12.01.78 TV TIME FOODS INC D13 =WP 7900-494
Meltable hard candy article - 48953B/26

• UAGR= 13.04.77 UKR AGRIC ELEC MECH D14 *SU -631-139
Mixer for animal feedstuffs - 61137B/33
UGIN 27.01.78 UGINE KUHLMANN A97 C03 D13 (A21) =GB 2013-471
Animal feed blocks and agglomerates - 54510B/30
UKAT 06.08.69 UK ATOMIC ENERGY AUTH D23 E19 J04 (J08) =J7 9020-481
Heating fluids for fractional distillation - 14419S/08
ULLR/ 05.03.76 ULLRICH H G D11 =DS 2609-085
Bread dough contg. condiment mixt. - 65207Y/37
ULTR- 28.12.77 ULTRAKUST GERAETEBA D13 J04 =DK 7805-385
Sampling bottle with ready-detailed information stored magnetically - 51036B/28
• UMEA= 02.10.72 UKR MEAI DAIRY IND D13 *SU -631-133
Condensed milk with sugar prodn. - 61131B/33
UNIC 20.07.70 UNION CARBIDE CORP A96 D22 (A23) =DT 2167-187
Orthopaedic limb support - 07952T/05
UNIC 02.04.73 UNION CARBIDE CORP D15 =DK 7805-881
Sewage treatment plant - 05540V/04
UNIC 27.04.76 UNION CARBIDE CANAD D12 #CA 1058-953
Cutting chilled sausage into links - 89702Y/50
UNIC 23.12.76 UNION CARBIDE CORP A92 D12 =US 4162-557
Turning flexible tubular skin, e.g. sausages inside-out - 45822A/26
UNIC 23.12.77 UNION CARBIDE CORP C04 D15 M28 =NO 7804-368
Removing heavy metals from waste activated sludge - 47205B/26
• UNIC 17.01.78 UNION CARBIDE CORP D12 *US 4162-693
Shirred sausage casing - 61398B/33
UNIC 27.01.78 UNION CARBIDE CORP D12 =GB 2013-472
Wrapping for food products esp. sausages - 56294B/31
UNIC 27.01.78 UNION CARBIDE CORP D12 =NL 7900-650
Wrapping for food products esp. sausages - 56294B/31
• UNIC- 07.02.78 UNI-CHARM CORP A96 D22 *DT 2904-634
Diaper or sanitary towel comprising absorbent plies - 60198B/33
UNIL 28.08.74 UNILEVER LTD D25 E19 =CA 1059-402
Low-foaming detergent powder for textiles - 21128X/12
UNIL 27.06.75 UNILEVER LTD A96 D22 (A11 A25) *GB 1550-614
Flexible resilient absorbent material based on polyurethane foam - 60222B/33
• UNIL 10.11.77 LEVER BROTHERS COM D25 *US 4162-994
Mechanically mixed, non-spray dried powdered detergent compsns 61483B/33
UNIL 03.01.78 UNILEVER NV D13 =DK 7900-013
Smoke liquid concentrate for food flavouring - 50867B/28
UNIL 13.01.78 UNILEVER LTD D21 (D24 D25) =GB 2013-493
Deodorant compsn. for treating skin - 54853B/30
UNIL 01.02.78 UNILEVER NV D25 =DT 2903-058
Spray dried detergent powder compsn. prodn. - 56302B/31
UNIL 01.02.78 UNILEVER NV D25 =NL 7900-810
Spray dried detergent powder compsn. prodn. - 56302B/31
UNIL 10.01.79 UNILEVER LTD D24 =GB 2013-706
Deodorising textile washing compsn. - 54834B/30
UNIL 30.01.79 UNILEVER LTD D25 =GB 2013-707
Spray dried detergent powder compsn. prodn. - 56302B/31
UNIT- 27.12.77 UNITECK CORP D21 M26 =SW 7813-323
Dental gold platinum alloy - 06018B/03
UNVO 02.10.74 UOP INC D22 E17 =DS 2542-937
Solid perfumed compsns. with regulatable evapn. rates - 26320X/14
• URAL= 28.11.73 URALS CHEM IND RES D25 *SU -511-335
Compsn. for cleansing heavily soiled surfaces and washing hands - 60986B/33
• URAL= 27.06.75 URALS CHEM IND RES D22 *SU -544-433
Aerosol air deodorant compsn. of birch odour - 60992B/33
• URBA/ 04.08.77 URBAN A D17 *CS 7705-157
Purification and decolourisation of liquid intermediates - B/33
USAS 09.06.76 NAT AERO & SPACE ADMIN A88 D15 J01 =GB 1550-559
Polymer membrane for reverse osmosis - 01401A/01
• UURB= 15.02 72 UKR URBAN AFFAIRS D15 *SU -631-456
Decontamination of anthrax infected water reservoirs - 61246B/33

VEOS 05 04.74 VER OSTERR EISEN & STAHL D15 J01 =CS 7502-345
Continuous oil sepn from aq emulsions - 71094W/43
VEOS 05.04.74 VER OSTERR EISEN & STAHL D15 J01 =J7 9020-193
Continuous oil sepn from aq emulsions - 71094W/43
VEOS 28.06.77 VER OSTERR EISEN & STAHL D15 J02 =DL -136-131
Sewage aeration device - 02213B/02
VEVS- 06 02.78 VER GEBR VAN STOOMK D15 =DT 2904-449
Anaerobic treatment plant for effluent - 58028B/32
• VINN= 20.06.77 VINNITSA TECHNOL IN D13 *SU -631-134
Filling moulds with candy mass - 61132B/33
• VRAN/ 19.01.78 VRANA F D15 *CS 7800-369
Floating impurities exhauster for small biological cleaning plant - B/33

WARN 02.02.78 WARNER-LAMBERT CO A97 D13 =GB 2013-473
Sugarless centre-filled chewing gum - 45645B/24
• WEAR- 06.02.78 WEAR-EVER ALUMINIUM D13 *DT 2904-587
Portable popcorn appliance - 60190B/33
WEAR- 06.02.78 WEAR EVER ALUMINUM D13 =GB 2013-477
Portable popcorn appliance - 60190B/33
WERN 25.01.78 WERNER & PFLEIDERER D11 =GB 2013-847
Baking oven heat exchanger - 02020B/02
• WERN 03.02.78 WERNER & PFLEIDERER D11 *DT 2804-545
Multideck baking oven - 60053B/33
• WERN/ 16.09.76 WERNER H B04 D16 *DL -135-911
Antigen for malignant tumour diagnosis - 59909B/33
• WIDM- 02.02.78 WIDMER & ERNST AG D13 *DT 2804-430
Cashew nut prepn. for cracking - 60045B/33
• WIGR 28.06.76 WINE GROWING PROD RES C04 D16 *SU -596-563
Fertiliser contg. high concn. of trace elements - 61082B/33
• WILL/ 04.05.77 WILLIAMS B E A97 D12 F07 *US 4163-070
Shrouding freshly skinned carcass - 61508B/33
WINN- 27.07.76 WINNER FOOD PRODUCT D11 =CA 1058-969
Dough strip raising machine - 10627A/06
WISC 07.08.75 WISCONSIN ALU RES FOUND D15 =CA 1059-658
Restoring clogged septic tank effluent seepage bed - 34251Y/19
• WOLF/ 25.01.78 WOLFOVA Z D15 *CS 7800-505
Machines and vehicles washing water regeneration station - B/33
• WOOL= 28.11.75 WOOL IND RES INST D18 *SU -563-437
Liquid processing of pelts - 61035B/33

• YOKO- 13.12.77 YOKO YAKKA KOGYOSHO D15 E31 M12 *J5 4082-845
Treatment of acidic waste liquor, e.g. steel pickling effluent - 60294B/33

• ZACE/ 22.03.78 ZACEK L D15 *CS 7801-793
Ferric coagulant for water treatment - B/33
ZAID- 16.12.77 ZAIDAN HOJIN GAN B04 D16 =J5 4084-017
Immuno-therapeutic agent for treating cancer - 47584B/26

- ZEME/ 16.02.77 ZEMEK J B04 D16 *CS 7701-020
  Beta-glucan glucanohydrolase prepn. - B/33
- ZEME/ 16.02.78 ZEMEK J D16 *CS 7801-452
  Beta-Glucosidase enzyme prepn. - B/33
- ZENI- 03.02.78 ZENITH-MASCH GMBH D15 *DT 2804-554
  Settling basin travelling bridge - 60055B/33
- ZIEM/ 24.04.78 ZIEMS W D12 *DL -135-856
  Vacuum cutter and mixer for meat etc. - 59894B/33

25479-F BD
NL 6612-046 Q00
AU 6609-858 Q01
EI 6600-957 Q01
FM ---6-225 Q01
GB 1150-293 Q01
US 3509-024 R18
CA -862-077 S05
J7 1023-037 S26
US 3646-195 T13
CH -525-251 T37
DS 1617-279 B33

40922-F BD
BE -723-873 Q00
CH -534-702 U22
NL 6816-356 Q01
DS 1808-834 B33

45020-R AD
BE -743-505 R25
NL 6919-220 R26
DT 1964-088 R27
ZA 6908-614 R36
FR 2026-896 R51
GB 1277-479 T24
CH -522-034 T30
J7 2045-802 T47
CA -940-070 V04
DS 1964-088 B33

14419-S DEJ
DT 2038-917 S08
FR 2060-084 S37
US 3714-283 U07
GB 1325-675 U32
CA -935-214 U43
CH -540-207 U44
J7 9020-481 B33

27532-S D
NL 7013-792 S16+
DT 2047-504 S25
DL --86-260 T10
CA -927-826 U26
GB 1332-903 U41
DS 2047-504 W42+
RU --58-834 W47+
J7 9020-581 B33+

45262-S ABD
DT 2061-371 S27
FR 2073-697 T02
GB 1274-158 T20
US 3708-397 U02
CA -949-909 V28
DS 2061-371 B33

70399-S BCD
BE -766-093 S44
DT 2119-688 S45
NL 7105-497 S45
FR 2092-068 T16
GB 1349-362 V14
CA -955-850 V43
J7 5013-333 W24
CH -563-459 W30
US 4071-618 A07+
DS 2119-688 B33

72004-S D
BE -766-490 S45
NL 7106-273 S49
DT 2122-369 T04
J4 7001-322 T05
FR 2089-573 T13
GB 1288-193 T36
CH -540-649 U47
CA -955-454 V42
OE 7103-590 W15
NL -150-661 X43
DS 2122-369 Y39
J7 9020-589 B33

75589-S CD
DT 2120-425 S48
FR 2093-475 T17
GB 1339-773 U49
US 3807-981 V19
IT 1018-006 A01+
DS 2120-425 B33

07952-T AD
BE -770-204 T05
DT 2135-995 T06
NL 7109-932 T06
J4 7003-392 T09
ZA 7104-755 T19
FR 2099-473 T25
US 3692-023 T40
CA -946-084 V19
GB 1366-091 V37
J7 8006-797 A14
DT 2167-187 B33

40563-T DE
BE -776-484 T25
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DT 2160-919 T28
FR 2117-558 T45
US 3806-363 V18
GB 1373-529 V46
J7 9020-578 B33
J7 9020-579 B33+
J7 9020-580 B33+

50196-T DE
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FR 2121-201 T50
DS 2100-114 B33

56819-T D
DT 2206-644 T36
GB 1355-938 V24
OE 7101-180 W35
DS 2206-644 B33

64245-T DE
J4 7019-046 T40
J7 9020-583 B33

68390-T BD
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BE -780-939 T44
FR 2132-080 U07
CH -536-860 U29
GB 1349-498 V14
CA -976-098 W44
DS 2215-160 B33

05017-U D
BE -786-276 U04
DT 2240-101 U10
NL 7211-377 U11
FR 2151-228 U24
DL --98-109 U32
US 3867-551 W09
GB 1405-133 W36
CA -982-070 X06
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CS 7205-747 B33

07069-U DE
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DS 2234-036 B33

22249-U DJ
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J4 8098-014 V08
FR 2215-392 V47
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CA 1000-649 X51
DS 2304-654 B33

24254-U AD
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DS 2145-345 B33

31567-U D
BE -792-622 U22
DT 2162-167 U26
FR 2163-621 U41
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GB 1415-177 W48
DS 2162-167 B33

39098-U BD
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BE -793-260 U28
DT 2262-427 U30
FR 2164-510 U42
ZA 7208-959 U43
J4 8068-729 U48
GB 1419-969 X01
IL --41-120 X05
CA -991-543 X28
US 4076-801 A11+
CS 7208-757 A50
SU -592-333 B01
DS 2262-427 B33

72652-U CDEF
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US 3833-735 V37
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NL 7309-138 V42
DT 2317-356 V43
SW 7309-218 V48
DK 7303-624 V49
SF 7302-097 W02
FR 2223-311 W04
US 3890-231 W26
OE 7305-756 W27
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HU T012-198 X43
CH -583-659 Y09
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CS 7304-599 A29
DS 2365-749 B20
DK 7805-881 B33

38405-V D
DT 2247-619 V21
FR 2205-155 V35
GB 1420-117 X02
DS 2247-619 B33

74362-V DE
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NL 7404-803 V43
DT 2417-642 V46
FR 2225-514 W06
GB 1471-062 Y16
CH -590-336 Y36
OE 7402-980 A40
DS 2417-642 B33

00153-W ADE
BE -818-255 W01
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NL 7408-988 W12
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SW 7409-395 W18
DK 7404-447 W22
J5 0049-437 W26
FR 2245-340 W27
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GB 1467-874 Y12
CA 1019-242 Y44
IT 1023-048 A31
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07660-W DJ
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FR 2232-519 W12
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GB 1469-996 Y15
DS 2329-630 B33

09167-W BD
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SW 7409-443 W11
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DK 7403-874 W15
FR 2238-502 W19
J5 0029-789 W31
ZA 7404-416 W35
OE 7406-039 W41
US 3931-400 X03+
AR -202-939 X13
US 3976-768 X36
J7 6045-675 Y01
GB 1473-356 Y19
CH -593-335 A01
CA 1031-710 A23
NL -158-224 A45
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11125-W D
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21320-W D
DT 2443-073 W13
NL 7411-819 W13
J5 0051-508 W35
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J7 8035-568 A43
DS 2443-073 B33

24637-W D
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BE -820-519 W16
NL 7412-909 W16
SW 7313-306 W21
NO 7403-549 W22
SF 7402-850 W28
FR 2246-502 W28
DK 7405-144 W28
PT --62-694 W33
ZA 7406-190 W51
GB 1459-551 X52
OE 7407-851 Y22
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DS 2445-636 B33

42714-W D
BE -825-147 W26
NL 7501-388 W35
DT 2505-722 W35
SW 7401-946 W40
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SF 7500-362 W44
DK 7500-368 W45
FR 2261-231 W49
OE 7500-915 X40
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GB 1480-126 Y29
CH -605-424 A41
IT 1028-883 B17
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CA 1059-659 B33

52741-W BCD
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BE -824-781 W32+
NL 7500-845 W33+
SW 7500-793 W38+
DK 7500-227 W42+
ZA 7500-039 X13
PT --63-272 X19+
DL -119-790 X28+
J5 1125-069 X51
DL -125-212 Y25
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DL -125-211 Y25
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GB 1499-582 A05+
J5 1125-069 X51+
OE 7500-426 B18+
CS 7500-448 B33+
CS 7801-231 B33+
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CS 7801-233 B33+

59179-W CD
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SW 7402-583 W42
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GB 1492-866 Y47
CA 1058-947 B33

70456-W DJ
US 3910-842 W42
DT 2544-488 X29
CA 1059-660 B33

70510-W DE
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DT 2516-809 W48
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FR 2288-742 X34
GB 1452-049 X41
SU -584-777 A44
CA 1049-538 B11
CH -610-319 B20
J7 9020-498 B33

71094-W DJ
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DL -117-867 X18
OE 7402-883 X24
GB 1463-022 Y05
HU T014-617 A15
CH -598-851 A24
CS 7502-345 B33
J7 9020-193 B33

72826-W DF
DT 2516-373 W44+
SW 7504-253 W49+
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US 3951-151 X18
US 3984-272 X42
GB 1463-042 Y05+
GB 1487-112 Y39+
CA 1058-125 B32
CA 1059-474 B33

72840-W BCD
DT 2517-316 W44+
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J5 0142-591 X02+
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GB 1508-977 A17+
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DL -132-297 A46+
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OE 7702-053 B18
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CA 1059-050 B33+

80221-W AD
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83197-W D
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DK 7502-436 X12
FR 2275-406 X15
OE 7504-116 Y27
GB 1506-649 A14
CH -597-099 A15
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85817-W D
NL 7505-649 W52
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FR 2273-481 X13
J5 1019-164 X14
ZA 7502-614 X21
CH -587-021 Y22
GB 1479-822 Y28
US 4075-196 A10
DS 2431-228 A12
J7 9017-017 B29
CA 1058-952 B33

08103-X DJ
J5 0066-951 X05
J7 9020-071 B33

13316-X DFJ
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FR 2277-615 X18
US 3968-038 X29
PT --64-002 X31
CA 1059-037 B33

18760-X ADE
US 3940-498 X10
CA 1058-950 B33

21128-X DE
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SW 7509-531 X18
FR 2283-219 X24
J5 1050-309 X24
ZA 7505-421 Y19
GB 1526-932 A40+
CA 1059-402 B33

22639-X DE
BE -833-213 X13
NL 7510-179 X13
DT 2539-014 X14
SW 7509-921 X18
DK 7504-010 X23
J5 1063-157 X29
BR 7505-665 X34
ZA 7505-160 X35
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DL -121-926 X45
GB 1458-343 X51
US 4012-447 Y12
FR 2330-676 Y32
J5 2083-628 Y34+
CH -593-220 A01
SU -588-913 A49
SW 7809-599 B06
CA 1052-821 B20
CA 1056-854 B27
CS 7505-695 B33
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26320-X DE
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FR 2286-655 X29
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28583-X DEH
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OE 7506-922 Y39
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30352-X AD
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BE -834-244 X17
NL 7511-728 X17
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FR 2287-484 X30
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GB 1498-087 A03
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39180-X DJ
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J7 9020-272 B33

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42057-X ADF
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49883-X AD
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GB 1455-804 X47
CA 1059-121 B33

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DT 2556-043 X29+
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SW 7514-033 X33+
SF 7503-476 X35+
DK 7505-642 X38+
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HU T016-828 B33+

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52482-X D
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SW 7510-513 [illegible]
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FR 2294-754 X44
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GB 1506-918 [illegible]
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56322-X AD
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NL 7600-289 X37
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BE -839-670 X42
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FR 2304-669 Y03
J5 1138-707 Y03
US 4076-800 A11
US 4087-518 A25
GB 1529-841 A43+
GB 1545-311 B19+
CA 1059-002 B33

59551-X AD
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NL 7602-836 X41
BE -839-672 X42
DT 2610-995 X42
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FR 2330-764 Y32
GB 1534-722 A49
CA 1059-003 B33

63505-X AD
BE -840-258 X34
ZA 7601-362 Y13
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GB 1520-583 A32
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CA 1059-401 B33

63731-X D
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FR 2292-439 X41
DK 7406-240 X42
GB 1503-329 A10
CA 1058-954 B33

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66825-X ADE
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67647-X BDE
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J7 9020-497 B33

69423-X BD
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J7 9020-584 B33

70404-X ADEL
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DS 2626-565 B33

72026-X ADE
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CA 1059-004 B33

72175-X BD
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US 4162-304 B32
US 4163-051 B33

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GB 1550-693 B33

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CA 1058-105 B32
CS 7601-640 B33

79442-X ADF
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GB 1528-404 A41
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81385-X AD
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FR 2306-954 Y06
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GB 1548-660 B29
CA 1059-245 B33 +

88959-X AD
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SF 7601-260 Y04
FR 2310-356 Y09
ZA 7602-708 Y19
US 4066-828 A03
CA 1059-505 B33

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SW 7605-986 Y11
GB 1543-346 B14
CA 1052-158 B16
DS 2623-905 B33

94671-X ADJ
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CA 1059-092 B33

95554-X BDE
NL 7514-890 X51 +
DT 2556-161 X52 +
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FR 2312-484 Y11 +
GB 1479-228 Y27 +
US 4055-601 Y44 +
GB 1496-378 A01
CH -605-514 A41 +
CA 1059-526 B33

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ZA 7601-504 Y17
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FR 2313-446 Y12
HU T016-100 B11
GB 1550-644 B33

04736-Y D
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J7 9020-591 B33

05648-Y ADEF
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09240-Y D
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CA 1059-364 B33

09451-Y ADE
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GB 1550-662 B33

12129-Y BDE
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J7 9020-600 B33 +

13213-Y CD
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DK 7603-423 Y16
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=883 42426B D15J04R1
*885 60278B D16R1

HU T016
*779 B D11
=780 22003Y D11
=784 35167A D15J01
*803 B D15
=828 49994X B03C02D13
*834 B D16

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=171 60934B D12

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=765 60910B B02C02D13

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=229 60931B B04D16R1

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*892 60298B A96D22F07P2

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*004 60304B A97D25E12
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*680 60424B D15
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*911 60456B D13
*912 60457B A97D15
=913 53007B D25E12
=983 93173A A11D17

J5 4084
*001 60511B A97D18
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*006 60515B C03D22E19F09P6
*007 60516B C03D22E16F09P6
*008 60517B C03D22E36F09P6
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*068 60542B D13
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*089 60547B B04D16
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*091 60549B A97B04D16
=092 45675B D16E17
*093 60550B B05D16E16
=094 40914B B04D16
*095 60551B B04D16
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*196 60575B A96D22P3
*197 60576B A96D22P3
*198 60577B A96D22P3
=509 47300B D23E17
*511 60585B B05D23E17

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=530 42546B B05C01D13E11
=535 40883B A60B05C03D22P3
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*576 60613B B03D16
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*871 60674B D15
*873 60675B D15M14
*874 60676B D15
*875 60677B D15
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=898 33354B D25E34

J5 4085
*176 60748B D25
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=296 44142B A96D21P3
*549 60848B D15
*551 60849B D15
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=969 44050B C03D13

J7 9020
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=497 67647X B03D21E12
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#517 14581Y B02C02D22
*573 60931B B04D16R1
*577 60932B D17E13
=578 40563T D17E13
=579 40563T D17E13
=580 40563T D17E13
=581 27532S D17
=583 64245T D13E14
=584 69423X B04D13
*587 60933B D12
*588 60934B D12
=589 72004S D13
=591 04736Y D11
=600 12129Y B05D16E19

NL 7801
*144 60958B D13
*145 60959B D13
#146 56218B D13

NL 7810
=177 58327B D12Q3

NL 7811
=390 25979B D16E17J04R1

NL 7812
=243 21891B D15J04R1

NL 7815
=002 88223A D13E13
=003 88222A D25E37
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=012 02332B D25E17

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=782 42427B D15J04R1 + Q5
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*873 60967B B05D22E14P3

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*171 60968B D12

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=904 18063B A88D18F04P1 + P4

NO 7804
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=306 47144B B04D16
=317 03944B B05D22E14
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=368 47205B C04D15M28
=386 47180B D15

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*015 60981B C04D15

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*055 60985B B04D16

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*335 60986B D25

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*433 60992B D22P3

SU -545
*827 60999B D15J09Q7

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*471 61005B D16
*474 61006B D17J01

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*150 61009B A96D21

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*939 61025B D17P4

SU -560
*839 61028B A91D15

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*437 61035B D18

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=967 31696X B02C02D13

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*979 61063B D13

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*226 61066B D16

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*693 61080B C03D13P1

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*563 61082B C04D16

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*548 61084B D16R1

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*528 61318B B05D16
*529 61319B D16E13
*530 61320B D16
*531 61321B D16
*532 61322B D16
*533 61323B D16
*534 61324B D16
*535 61325B D17

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=888 61450B D22F09J01L02

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=068 49355B A21D15

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=278 49436B D17E12F09M12
*314 B D16R1
=323 06018B D21M26P3
=384 49005B B04C03D16
=406 33434B D22L02P3

US 4162
=557 45822A A92D12
*558 61383B D12
=676 12650A A96D22E33 + P3
*693 61398B D12
*882 61423B D11
=893 48185A D21E21
*897 61428B D25E13R1
=902 04057Y D15E14H09
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*925 61444B A11C03D17H01
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*934 61450B D22F09J01L02
*938 61451B B03D16
=939 18072A B04D16 + P1
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=970 08349A D15J02 + P4
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*976 61472B D15
*983 61476B D25
*987 61478B A97D25
*994 61483B D25

US 4163
*004 61486B A96D21E11
=009 57096A D12
*010 61488B D13
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=111 14430B D23E15

WP 7900
=494 48953B D13
*509 61537B D23E13
=521 56696B A14D21L02M22 + P3
*541 61546B A97B04D16J01

CENTRAL PATENTS INDEX

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ABSTRACTS

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II - PATENTEE

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Section D:

FOOD
DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BRAZIL	7 AUG 79	7,700,579 - 7,903,432
CANADA	7 AUG 79	1,059,701 - 1,060,150
CZECHOSLOVAKIA	31 MAY 79	6,708,185 - 7,807,528
DENMARK	30 JUL 79	7,800,023 - 7,900,093
W. GERMANY		
-DAS	16 AUG 79	1,506,632 - 2,850,736
-OLS	16 AUG 79	2,640,762 - 2,906,998
EUROPE	22 AUG 79	3,472 - 3,724
FRANCE*	8 JUN 79 (BOPI 13 JUL 79)	2,408,285 - 2,408,983
UNITED KINGDOM	22 AUG 79	1,550,721 - 1,551,220 2,014,021 - 2,014,420
ISRAEL	25 JUL 79	40,542 - 54,561
JAPAN		
-Unexamined	—	47,030,688 - 52,068,049
	10 JUL - 16 JUL 79	54,086,401 - 54,089,700
-Examined	26 JUL - 1 AUG 79	79,020,841 - 79,021,760
NETHERLANDS	6 AUG - 12 AUG 79	7,801,181 - 7,901,005
NORWAY	30 JUL 79	7,704,138 - 7,901,966
SOVIET UNION	—	631,700 - 633,043
SWEDEN**	6 AUG 79	7,800,001 - 7,900,151
UNITED STATES		
-Reissues	7 AUG 79	Re30,062 - Re30,069
-Defensives	7 AUG 79	T985,001 - T985,006
-Patents	7 AUG 79	4,163,292 - 4,164,041
SOUTH AFRICA	JULY 79	7,704,095 - 7,807,562

*Printed patents actually published early August, 1979

**Includes numbered Basics from Week B23

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

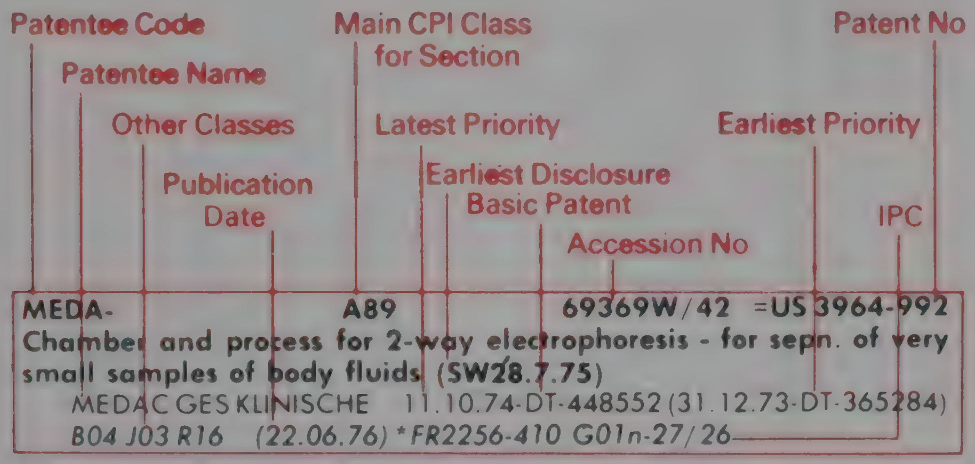
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- A89 69369W/42 =US 3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11: BAKING

SHIM- ★ D11 62106B/34 ★J5 4086-641
Noodles prodn. - includes adding water to opt. crushed rice, grinding in presence of water, adding wheat flour to emulsion and forming noodles
SHIMADA-YA HONTEN K 19.12.77-JA-152693
(10.07.79) A23l-01/16

Prodn. of noodles comprises (1) addn. of water to rice (I) or crushed rice (II) for absorption of water into (I) or (II), (2) grinding (I) or (II) in the presence of water in amt. more than double the weight of (I) or (II), (3) addn. of the resulting emulsion to wheat flour, so that the wt. of (I) or (II) is 1-50 wt. % of the weight of wheat flour and (4) prodn. of noodles by the usual method.

Pref. α-amylase, cellulase, hemicellulase, protease, acid or alkali, such as phytic acid, acetic acid, lactic acid, citric acid, sodium carbonate, potassium hydroxide, etc., glycine, ethyl alcohol, propylene glycol are added as required in step (2), for improvement of texture.

Noodles of texture as good as that produced only from wheat flour are obtd. 19. 12. 77 as 152693 (4pp42)

KIFO= ★ D11 62666B/34 ★SU -632-334
Tunnel type baking oven - has a combustion chamber in steaming section below the working branch of conveyor hearth
KIEV FOOD IND TECH 07.02.77-SU-452169
(16.11.78) A21b-01/28 A21b-03/04

Reduced aerodynamic resistance in the circulation system of the heating gas, simplified design and lower metal content of the tunnel-type baking oven are due to the steaming chamber. The latter is set below the working branch of the conveyor hearth.

The heating gases from the combustion chamber are fed to the top and bottom headers, and after passing the gas heating ducts they enter the outlet header. The blower draws the gases through the collecting duct and feeds them to mixing chamber of the firebox with part of the gases exhausted into the atmosphere. Mikhelev, A.A., Sigal, M.N., Shulgin, I.M. et al. Bul. 42/15.11.78. 7.2.77 as 452169 (2pp89)

SVBA- ★ D11 B/34 ★SW 7800-121
Electrically heated bread-baking oven - with its bottom plate laid on supports resting on, but not fixed to, the heating elements
SVENSKA BAKUGNSFABR 04.01.78-SW-000121
(06.08.79) A21b-01/50

The oven is heated by electric elements, some of which are positioned below the bottom plate of the oven chamber. The bottom of the oven is formed by one or more plates which can be raised for removal.

The plates rest on supports which are not permanently fixed but placed on the electric elements so that they can be easily moved. The positions of the supports can be varied by moving them, removing some or adding additional supports. 4. 1. 78 as 000121 (-pp1183)

CALL/ ★ D11 63087B/34 ★US 4163-806
Unbaked cheese cake made from cream cheese - mixed with powdered sugar and non-dairy whipped topping, and refrigerated until firm
CALLEN D M 21.04.77-US-789685
(07.08.79) A23c-19/12

An unbaked cheesecake is formed from a mixt. of cream cheese, 10-25% w/w of non-dairy whipped topping and 15-40% w/w sugar. The mixt. is refrigerated until firm, pref. after placing in an edible shell. Pref. the topping concentration is 18-28% and the sugar concentration is also 18-28%.

The cheesecake is prepd. by mixing the ingredients without the necessity of a baking step. 21. 4. 74 as 789685 (2pp)

D12: MEAT; FISH PROCESSING

RASC/ ★ D12 B/34 ★CS 7803-364
Peelable collagen coatings and cellulose sheets
RASCHIK P 24.05.78-CS-003364
G02 (31.05.79) A22c-13

HENR/ ★ D12 B/34 ★DK 7800-098
Slaughtered poultry processing plant
HENRIKSEN J 10.01.78-DK-000098
(30.07.79) A22c

KOMA/ ★ D12 62114B/34 ★J5 4086-655
Mfg. sweet boiled carp contg. honey - by adding honey at less than 80 degrees C and impregnating in carp meat
KOMATSU Y 20.12.77-JA-153817
(10.07.79) A23l-01/32

Honey-boiled carp can be prepared while preventing the browning of carp meat, and the method comprises adding honey at the temp. where levulose in honey does not take part in amino-carbonyl reaction and impregnating honey in carp meat. Pref. the honey is not heated to > 80 °C.

Sweet boiled carp is delicious and is free of the muddy odour specific to carps, can be taken with bone and all, and has been prepared using 'sake', 'syoyu', sugar, etc. as seasoning. Honey is used in addition to above seasonings and with it nutritive value and glossiness of the sweet boiled carp can be increased. 20. 12. 77 as 153817(2pp5)

TAKA/ ★ D12 62509B/34 ★J5 4089-060
Colour-stabilising treatment for eggs, meat and fish - using edible salt and ammonium salt(s)
TAKAGI M 27.12.77-JA-156722
E35 (14.07.79) A23l-01/27

Method comprises processing egg and meat of marine and ground animal using edible salt and $\geqslant 1$ ammonium salt(s). Usually the ammonium salts are combined 0.01-2.0 w/w% on starting material. Ammonium alum shows the remarkable improving effect on the texture of egg and meat and for the object it is used 0.02-1.0 w/w% on the starting material.

Ammonium salt shows a remarkable preventive effect on the darkening of haemoglobin, myoglobin and blood vessel due to oxidn., the clarifying effect on blood vessel and the preventive effect on the greening of bilirubin due to oxidn. Further some ammonium salts also show the improving effect on the texture of egg and meat. 27. 12. 77 as 156722 (2pp5)

UENS ★ D12 62510B/34 ★J5 4089-061
Quality improving agent for minced fish meat - comprises glycerine fatty acid ester with mono:ester content of 40-55 per cent
UENO SEIYAKU OYO KE 27.12.77-JA-156358
E17 (14.07.79) A23l-01/32

The agent contains a glycerine fatty acid ester having mon

-oester content 40-55% pref. 50% and opt. oil and fat as effective ingredients. The agent improves the whiteness of minced fish meat remarkably and freeze-denaturation of the protein in minced fish meat during its preservation can be prevented. Boiled fish paste prepd. from the treated minced fish meat has excellent elasticity and texture.

Pref. the glycerine fatty acid comprises, in addn. to the monoester, mainly diester, and a small amt. of triester. By combining oil and fat such as cotton seed oil, linseed oil, soy bean oil, tallow, lard, etc. the whiteness of frozen minced fish meat can be further improved.
27.12.77 as 156358 (7pp5)

MIPR= ★ D12 62667B/34 ★SU -632-335
Livestock carcass cutter - has a pneumatic hammer striking the pivoted blade connected by a spring
MINSK PRODMASH WORK 29.04.77-SU-483381
(15.11.78) A22b-07

Animal carcass chopper of enhanced efficiency has a hatchet with a pneumatic striker articulated to it at one end. The other end is connected by a spring. During carcass splitting, the striker imparts reciprocation to the blade around the pivot, while the cutting edge is also moving along the striker axis.

The mechanism ensures a simultaneous cutting and chopping action on the carcasses, accelerating the dividing of the carcasses. It also prolongs the service life of the blade.
Dubinskii, L.R., Chaikovskii, A.A., Soloveichik, S.L.
Bul. 42/15.11.78. 29.4.77 as 483381 (2pp89)

FISH= ★ D12 62668B/34 ★SU -632-336
Smoked fish head remover - features helical cutting blades with inclination proportional to fish head size
FISHING FLEET DES 03.03.77-SU-459557
(20.11.78) A22c-25/10

Reduced force required for removing spiked sprats head and prevention of bending the fish are ensured by cranked plate knives which are connected at the end by discs. The cutting edges are set along a helical line with a lead angle of tan $\varphi = 2a/b$, where a is the pitch of fish spacing on spikes, and b is the distance between the eyes and the front of the fish head.

Four blades are mounted on each cutter shaft, the latter spaced to provide a passage for the spikes with fishes. A guide places the spikes in recesses between the conveyor chains for smooth entry into the cutting zones. The heads are removed after smoking of the fishes.
Stolin, L.M., Mikhailov, G.V., Osovets, V.I. et al.
Bul. 42/15.11.78. 3.3.77 as 459551 Add. to 449705 (3pp 89)

MOMD ★ D12 62694B/34 ★SU -632-392
Cutter for meat grinder - has blades of wedge shape with an acute apex angle
MOSCOW MEAT DAIRY INST 10.02.77-SU-452186
P41 (30.09.78) A22c-17 B02c-18/36

Longer service life of the meat grinder is due to the plane of blade sharpening forming a wedge with an apex angle of 6-16°. The blade operates in combination with a stationary perforated disc with the edges of blade cutting off pieces of meat that are pushed through disc perforations.

The cutter can be used in fast grinders and can operate in steam with a fixed grid which is made in the form of a disc with open apertures.
Ivashov V.I., Yurkov S.G., Bubyrenko V.K. et al. Bul. 42/15.11.78 10.2.77 as 452186 (2pp89)

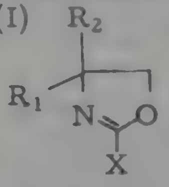
ALEX/ ★ D12 B/34 ★SW 7800-013
Cooling animal carcass - by fresh water shower after initial rapid cooling
ALEXANDERSON S 02.01.78-SW-000013
(06.08 79) A22b-07

Cooling of slaughtered animal carcasses is effected of first applying a rapid and powerful cooling process and then explosing the carcass to a fresh water shower of predetermined period at certain time intervals.
2.1.78 as 000013 (-pp1183)

TEEP D12 54569X/29 =US 4163-463
Sausage skin opt. reinforced by fibre - obtd. by adding fatty acid gp-substd. oxazoline wax to viscose before extrusion (BE060776)
TEE PAK INC 06.01.75-US-538636 (09.11.78-US-959396)
*A97 E13 +Q67 (07.08.79) *DT2600-203 +C08b-09 F16l-11/08*

An artificial sausage casing of regenerated cellulose is claimed, the cellulose being impregnated with 1-15wt.% of an oxazoline wax of formula (I).

(I)



In (I), X is $-CH_2R$ or $-CHR=CH_2$. R is 10-24C fatty acid radical. R_1 is methylol, 1-10C alkyl or a fatty acid ester radical of formula (fatty acid-C(O)-O-CH_2-) (II) with the fatty radical portion having 10-24C atoms and ≯1 unsatd. gp. R_2 is methylol, 1-20C alkyl or a radical (II). Pref. R is a stearic acid radical and $R_1=R_2$=stearic acid ester radicals.

The casing has excellent handle, flexibility and peelability from sausages processed in the casings. 9.11.78 as 959396 (6pp992)

SCHN/ ★ D12 B/34 ★ZA 7801-244
Sliced biltong and container - with air circulation system
SCHNEIDERMAN D 03.03.78-ZA-001244
P28 Q74 (14.05.79) A47j-43 F24f-03

Appts. for holding sliced biltong includes a receptacle and means for forcing air to circulate through the sliced biltong in the receptacle. 3.3.78 as001244 (8pp)

WHIT- ★ D12 63135B/34 ★ZA 7802-283
Curing fish to simulate smoked fish - by spraying raw fish with smoke extract and preservative salt in curing zone, and conditioning at controlled temp.
WHITE STEVENSON 22.04.77-GB-016902
(01.03.79) A23b-04

PROT- ★ D12 B/34 ★ZA 7804-116
Collecting blood sample from animals - by inserting sterilised self-piercing hollow instrument into artery or vein and conducting blood into container
PROTEAN HDGS LTD 19.07.78-ZA-004116
(19.06.79) A22b

Method comprises suspending a stunned animal, stripping a portion of the hide of the animal to expose an area adjacent a major artery or vein of the animal, inserting a sterilised self piercing hollow instrument through the exposed area into the vein or artery and conducting the blood in a sterile manner from the instrument to a container in which the blood is collected. 19.7.78 as 004116(23pp)

D13: OTHER FOODSTUFFS

PESE/ ★ D13 B/34 ★CS 7800-399
Additive for green fodder - suitable for ruminants
PESEK M 20.01.78-CS-000399
C03 (31.05.79) A23k-03/03

HOTZ/ ★ D13 B/34 ★CS 7800-994
Dry mix for juice prepn.
HOTZKY J 15.02.78-CS-000994
(31.05.79) A23l-02/38

TAMC/ ★ D13 B/34 ★CS 7802-483
Prodn. of syrups for non-alcoholic drinks
TAMCHYNA J 18.04.78-CS-002483
(31.05.79) A23l-02/16

PALE/ ★ D13 B/34 ★CS 7802-861
Feedstuff for newly hatched chicks
PALECEK K 04.05.78-CS-002861
C03 (31.05.79) A23k-01/17

JAKI/ ★ D13 B/34 ★CS 7803-268
Compsn. for intensive feeding of farm animals and poultry
JAKIMENKO L M 19.05.78-CS-003268
C03 (31.05.79) A23k-01/16

BARA/ ★ D13 B/34 ★CS 7804-458
Milk protein spray-dried concentrate prodn. - ensuring high content of calcium
BARABAS J 05.07.78-CS-004458
(31.05.79) A23c-01/04

BARA/ ★ D13 B/34 ★CS 7804-459
Milk proteins dry concentrate prodn.
BARABAS J 05.07.78-CS-004459
(31.05.79) A23c-03/08

NEVE/ ★ D13 B/34 ★CS 7804-847
Constant water content butter granulate prodn.
NEVECERAL J 20.07.78-CS-004847
(31.05.79) A23c-15/02

PEND/ ★ D13 B/34 ★CS 7805-253
Salt melts for cheese prodn.
PENDL J 11.08.78-CS-005253
(31.05.79) A23c-19

SAJV/ ★ D13 B/34 ★CS 7805-301
Solid, stabilised sweetening mixture
SAJVERA J 14.08.78-CS-005301
(31.05.79) A23l-01/23

DOLE/ ★ D13 B/34 ★CS 7806-464
Cheese salting
DOLEZALEK J 05.10.78-CS-006464
(31.05.79) A23c-19/02

UNIL D13 24440X/14 =DS 2541-507
Fatty food for frying sauce prepn - contg. fat, phosphatide, protein material, and effective amt of ammonium salt
UNILEVER NV 18.09.74-NL-012329
*(16.08.79) *BE-833-575 A23d-05*

Cooking oils are improved by the addition of ammonium salts, esp. NH_4 adipate, (0.2-5 m-mole/100g). Citric acid and/or citrate; and/or glutamate and lactate may be added. The prods. are virtually water-free and contain only traces of phosphatides, proteinous materials and salts, with improved browning properties. 17.9.75 as 541507 (5pp047)

HONE ★ D13 61699B/34 ★DT 2828-582
Soft drink contains full milk - acidified with fruit juice and/or organic acid and stabilised with carob bean gum
HONEY BEE CORP 10.02.78-JA-014349 (10.02.78-JA-014348)
(16.08.79) A23c-09/10

Acidified milk beverage having pH 2.5-4.5 (3.4-3.6) contains (i) whole milk, (ii) ≥1 acidifier consisting of fruit juice, (I), and/or organic acid, (II), suitable for drinking, and (iii) carob bean gum as stabiliser, so as to maintain a stable emulsion free from small, separated, coagulated lumps. The beverage is prepd. by (1) dissolving carob bean gum in whole milk; (2) mixing an emulsion of milk obtd. in (1) with the acidifier(s) at 35-60 (40-50)°C and (3) homogenising, pref. in a Gauline homogeniser.

The carob bean gum prevents segregation or sepn. of milk fats. Use of whole milk improves nutritional- and calorific value. At prevailing pH, microbe dissemination is retarded and shelf-life is improved. 29.6.78 as 828582 (16pp200).

HUSQ- ★ D13 61730B/34 ★DT 2903-984
Protein-contg. food prodn. - by extruding food paste from tube transparent to microwaves and treating with microwaves to give intense central heating (NL 7.8.79)
HUSQVARNA AB 03.02.78-SW-001280
+R59 (16.08.79) A23j-03 A23l-01 B29f-03/08 H05b-09/06

A paste of the prod. is formed to an extrudable mass and this passes forwards through a pipe which is transparent to microwaves: the material is subjected to microwave treatment in a $TM\text{-}_{o21}$ transmitter; the material leaves in a solid state and is transported onwards. Pref. the microwave treatment in the transmitter is such that the max. heat intensity is developed at the centre of the cross-section of the extruded material and the min. at the periphery. The contact surface between the extruded material and the inner wall of the pipe is lubricated.

Used for the prodn. of paste-like prods. of meat, fish, eggs and other protein substances. The method enables the central part of the extruded material to be more intensely heated than the outer part, thus compensating for the different speeds of travel of the central (faster) and outer (slower) regions of the material. 2.2.79 as 903984 (14pp236).

GEOC- ★ D13 61756B/34 ★DT 2905-058
Fresh spice plant preservation - by adding alkali salt, glycol and/or sugar moistening agent at room temp. to given water-activity
GENERALE OCCIDENTAL 15.02.78-FR-004250
(16.08.79) A23b-07

Spice plants are preserved in fresh condition by adding, at ambient temp., sufficient moistening agent(s), (I), to set water-activity of mixt. below 90 (pref. 85-90). Pref. (I) are water-soluble alkali metal salts, alkylene glycols, glycols and/or sugar. (I) are esp. NaCl, 1,2-propylene glycol, glycerol, saccharose and sorbitol. The herb compsns. may also contain 0.1-20 (1-10) wt.% edible oil.

Herbs preserved are parsley, chervil, basil, chives, taraggon and mint. Fresh herb preservation takes place at room temp., without dehydration, heating, addn. of chemical preservatives or changes in acidity. Organoleptic qualities are preserved for a long time. 8.2.79 as 905058 (15pp200).

BATT ★ D13 61866B/34 ★EP ---3-717
Lactoyl-urea and n-methylol-lactoyl urea prepn. - for use as ruminant feedstuff additives
BATTELLE MEMORIAL 14.02.78-CH-001585
C02 (22.08.79) A23k-01/22 C07h-13/12
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

(A) Prodn. of lactosyl urea (I) comprises condensing lactose and urea at 70-110°C in presence of an acid catalyst and water. The amt. of water is the minimum sufficient for the consistency of the reaction mixt. to remain fluid under stirring but also sufficiently firm for the mixt. to be poured onto a flat horizontal surface without flowing.

(B) Prodn. of N-methylol-lactosyl urea (II) comprises treating (I) with HCHO in aq. alkaline medium. The use of (II) as a ruminant feedstuff additive is also new.

(I) and (II) are nitrogen-supplying ruminant feedstuff additives. After removal of excess urea, (I) is obtd. in sufficiently high purity to improve the digestion and assimilation of cellulose and also to inhibit the loss of assimilable urea by conversion into NH_3. (II) is similar to (I) but has even better properties relating to the slow, progressive release of nitrogen.

Compared with previous prepn. of (I) at lower temp. in presence of larger amts. of water, the process gives (I) more rapidly and in high yield, and hence more cheaply. Typically 85% yield is obtd. after 2 hrs. at 110°C. (I) is also obtd. in high purity and in non-hygroscopic form. 26.1.79 as 810007

(F) ISR: US4066750; US3989846; GB1515280.

BOUR/ ★ D13 61871B/34 ★FR 2408-307
Stable homogeneous animal feedstuffs - contg. a liquid food by/product and a gelling agent
BOURDIN M 10.11.77-FR-035277
C03 (13.07.79) A23k-01

Animal feedstuffs are prepared by mixing ⩾1 substance, having a high water content and associated with a gelling agent, with a nutritive material under the form of a paste, powder or fine solid. The substance having a high water content is pref a by-product of the food industry, such as lactoserum or blood. The gelling agent is typically gelatine, an alginate or lactic ferment.

The feedstuffs are cheap to prepare, stable and homogeneous. 10.11.77 as 035277 (5pp520).

NEST D13 57506Y/33 =GB 1550-746
Aromatic spice extract used for food flavouring - obtd. by combining grinding vapours and double solvent extraction
SOC PROD NESTLE SA 09.03.76-CH-002896
*(22.08.79) *BE-851-107 A23l-01/22*

Prodn. of an aromatic spice extract from one batch of spice comprises (a) grinding the spice and collecting an aromatic fraction A consisting of gases given off during grinding, (b) treating the spice with an apolar organic solvent to give an aromatic fraction B contained in the solvent and (c) treating the spice with ⩾1 polar organic solvent to give an aromatic fraction C contained in the polar solvent.

Provisos are that (a) always precedes (b) or (b) + (c), step (a + b) always precedes step (c) or (b + c), step (b) always takes place between (a) and (c) when none of the steps are combined, and steps (a) and (c) are never combined. The combination of A, B and C constitute the aromatic spice extract. 7.2.77 as 004883(8pp992)

RALS D13 29049Y/16 =GB 1550-878
Modified protein filaments prodn. for aq. slurry - by heat coagulation then modifying acidity at moment of discharge
RALSTON PURINA CO 11.12.75-US-639721
*(22.08.79) *US4017-646 D01f-04 +D01d-05/26*

Protein fibres having pH ⩾6.0 are obtd. by (1) heating a confined, flowing stream of a fluid aq slurry of a proteinaceous material under a pressure and at a temp. sufficient to coagulate the protein and form filaments; (2) passing the resulting stream through a back pressure-creating orifice into a collecting zone; (3) confining the discharged stream within a total angle of 4-90°C while injecting a pH-increasing agent; then (4) sepg. the filaments from the rest of the slurry.

The pH-increasing agent is pref. aq Na_2CO_3 soln. which is esp. at 250°F. The proteinaceous material may be soy protein. The prod. is used in prod. of foodstuffs esp. for blending with meat. Formation of lumps is avoided and a prod. with uniform and optimum pH can be obtd. 13.12.76 as 051954(7pp945)

AMPO- D13 84367X/45 =GB 1550-884
Dried potato rice products - produced by shaping a dough contg. water, starch, binder and potato solids, predrying, treating with oil and drying
AMERICAN POTATO CO 21.04.75-US-569903
*(22.08.79) *NL7604-057 A23l-01/21*

Prodn. of dehydrated instant texturised potato rice comprises (a) producing a dough comprising 64-78 wt.% water and 36-22 wt.% solids (I), (b) forming the dough into rice or hashbrown sized pieces, (c) predrying to a moisture content of 30-60 wt.% in the presence of air heated to allow efficient drying but to avoid browning or puffing, (d) coating with edible fat or oil and (e) drying at above the gelatinisation temp. of starch to a moisture content of 7-8 wt.% to texturise the pieces.

(I) consists of 3-10 wt.% raw starch or film-forming protein prod., 1-5 wt.% binder, 1.5 wt.% flavouring and the balance instant dehydrated cooked intact potato
The water in the dough is at a temp. below the gelatinis
tion temp. of the raw starch.

The prod. is reconstitutable in hot water to form ri
like textured rice and potato dishes. 21.4.76 as 016173
(5pp992)

FERR/ ★ D13 61929B/34 ★GB 2014-
Prepn. of dairy prods. - in which growth of undesira
microorganisms is controlled or prevented using lysozyme o
lysozyme salt
FERRARI L 03.08.77-GB-032475 (03.08.78-GB-032133)
(22.08.79) A23c-03

Lysozyme or a non-toxic salt thereof is added during th
prepn. of a dairy prod. esp. of cheese. The lysozyme i
pref. in the form of its lactate, phosphate, citrate, glycerophosphate or ascorbate.

Lysozyme has very low or no toxicity when taken ora
lly, even after a long time. It is odourless with a slightl
sweet taste and does not interfere with the organoleptic characteristics of the final prod. It obviates the need to use nitrates which are dangerous. 3.8.78 as 032133(5pp)

HOUS- ★ D13 62107B/34 ★J5 4086-6
Easily soluble dried soybean milk prepn. - by mixing sodium case
with soybean milk and spray drying
HOUSE SHOKUHIN KOGY 23.12.77-JA-154332
(10.07.79) A23c-11 A23l-01/20

Prodn. of easily soluble dried soybean milk (I), compris
(a) mixing sodium casein (II) with soybean milk produced by usual method and (b) spray-drying the mixt. The amt. of (II) used is 3-20 wt. % on solid of (I). The particle size of (I) is adjusted to 30-100 meshes by controlling the con
itions of spray-drying or by granulation in fluidised bed system. By adjusting pH of the mixt. of soybean milk an
(II) to > 7.2 before spray-drying, (I) is dissolved in wate
more easily. The pH of the mixt. is adjusted by the add
of Na acetate, Na_2CO_3, $(NH_4)_2HPO_4$, Na_2HPO_4, etc.

(I) can be dissolved in water with agitation for short time. (I) is used as stabiliser of ice cream, soybean milk-drink, foaming agent of cakes, etc. 23.12.77 as 154332 (6pp42)

SANW- ★ D13 62108B/34 ★J5 4086-64
Decolourising soybeans - includes boiling under high pressure
further boiling in water contg. hydrogen peroxide and decomposin
latter with catalase source
SANWA YAKUHIN KK 20.12.77-JA-153404
(10.07.79) A23l-01/20

Method comprises (1) boiling soybean under high pressur
(2) further boiling it in water contg. 0.1-6.0% hydrogen peroxide at 40-100°C and pH < 8 for 1-30 mins. and (3) decomposing hydrogen peroxide to water using catalase-producing microorganisms such as Aspergillus oryzae an
Bacillus natto.

Soybean can thus be decolourised easily even in small scale process. Brown coloured old soybeans can also be decolourised effectively. 20.12.77 as 153404 (4pp42)

HOUS- ★ D13 62109B/34 ★J5 4086-64
Compsn. for mfg. tofu, i.e. soybean curd - contains heat-treate
and dried soybean milk of high solubility to boiling water
HOUSE SHOKUHIN KOGY 23.12.77-JA-154331
(10.07.79) A23l-01/20

(1) A composition (I) of raw material for Tofu (soybean curd), composed of heat-treated and dried soybean milk (II), having > 80% of solubility to boiling water, > 90% of degree (III) of dispersion in boiling water and > 20 of degree (IV) of heat-denaturation.

Prodn. of (I) comprises (i) addition of casein sodium(V)
to soybean milk, (ii) adjustment of pH to > 7.2, (iii) adjus
-ment of (IV) to > 20 and (iv) spray-drying of the mixture.
Tofu is produced by (a) mixing (I) and granular flocculant (VI), which dissolves in water during > 4 sec., (b) adding
the mixture in boiling water and (c) cooling it.

As (I) can be dissolved and dispersed in boiling water easily, production of Tofu is simplified. 23.12.77 as 154331 (10pp42)

HOKU- ★ D13 62110B/34 ★ J5 4086-650
Potato storage - by treating with sorbic acid, potassium sorbinate or benzoic acid to suppress sprouting, then keeping at 2-5 degrees C
HOKUREN NOGYO KYODO (DAIL) 21.12.77-JA-154202
E17 P12 (E14) (10.07.79) A01f-25 A23b-07/10

A method for storage of potatoes, comprises spraying or painting the surfaces with sorbic acid, potassium sorbinate or benzoic acid as sprout-suppresing agent, then storing it at 2-5°C.

When potatoes sprout, toxic cpds. are formed and quality of the potato lowers. Toxicity of the reagents used is low.

The reagents are dissolved in volatile solvent, such as ethanol, n-propanol, etc., or dispersed in water with the addn. of surface active agent, such as sorbitan fatty acid ester, etc., and the soln. or emulsion is sprayed or painted on. The reagents may also be mixed and grinded to fine powder and sprayed in the powder-state. 21.12.77 as 154202 (3pp42)

YOSH/ ★ D13 62111B/34 ★ J5 4086-652
Salted japanese apricot tablets prodn. - by heating stoned apricots to melt crystals of salt and citric acid, drying, grinding and forming into tablets
YOSHIMOTO H 23.12.77-JA-155362
(10.07.79) A23g-03 A23l-01/34

Process comprises (a) heating stoned, salted japanese apricots at 70-160°C until the crystals of salt and citric acid melt; (b) drying to a moisture content of 8 wt.% at > 50°C; (c) grinding to a powder; and (d) forming into tablets.

Formation of large-sized crystals of salt and citric acid is prevented by drying the mixt. at > 50°C. The dried material is pref. ground to a powder of size < 60 mesh. Dried powder of beefsteak plant (sic) (Perilla frutescens crispa), pigments and flavours may be added. 23.12.77 as 155362 (3pp42)

ASAH ★ D13 62112B/34 ★ J5 4086-653
Natural fruit juice with increased bitterness - obtd. by ultrafiltering electrodialysing filtrate, and mixing ultrafiltration concentrate and acid free filtrate
ASAHI CHEMICAL IND KK 23.12.77-JA-154345
(10.07.79) A23l-02/36

The method comprises (1) treating natural fruit juice by ultrafilatration, (2) electrodialysing the filtrate using an anion exchange membrane and (3) mixing the concentrate of ultrafiltration and the acid-removed filtrate.

Acid is removed from natural fruit juice by ion-exchange resin or electrodialysis for prepn. of fruit juice of constant quality from different fruit. However, running cost of ion exchange is high and anion exchange membrane is easily dirtied by suspended solids, such as pulp, pectin and colloidal substances during electrodialysis. In the present method, these suspended solids are removed by ultrafiltration and the electrodialysis is carried out efficiently. 23.12.77 as 154345 (4pp42)

MORI/ ★ D13 62113B/34 ★ J5 4086-654
Calcium-contg. nutritive pickled food - contg. powder or liq. of oyster shell obtd. by electrolysing oyster shells
MORIYAMA M 21.12.77-JA-152999
(10.07.79) A23l-01/21

The pickled foods contain powder or liquid of the oyster shell, which contains 30-80% Ca and is obtd. by electrolysing oyster shell under 200V-10KV at 500-5000°C in an electric furnace to ionise its components. The oyster shell powder contains Ca oxide, Mg oxide, SiO_2, Al oxide, Fe_2O_3, TiO_2, Na oxide, K oxide, SO_3, P_2O_5, Cl_2 and CO_2. Pref. food materials for the pickled foods are previously immersed in an aq. soln. contg. the oyster shell powder.

The oyster shell powder is easily absorbed in pickled foods, can mitigate the sourness and saltiness of pickled foods and can stabilise pickled foods. 21.12.77 as 152999 (2pp5)

KIBU- ★ D13 62115B/34 ★ J5 4086-662
Pudding-like dessert prepn. - by dissolving sodium citrate in small quantity of water, dissolving cheese in soln., mixing with soln. of sodium arginate, and cooling
KIBUN KK 23.12.77-JA-154326
(10.07.79) A23l-01/18

Process comprises (a) dissolving 0.45-1.14 pts. Na citrate in a small quantity of water; (b) dissolving 100 pts. cheese in the soln. with heating and addn. of water; (c) dissolving 2.59-3.42 pts. Na arginate in water separately; (d) mixing the solns. with stirring at > 80 (> 85)°C; (e) filling into vessels; and (f) cooling to effect gelation.

By adding proper seasoning, sweetener, flavour, etc. a delicious pudding-like dessert food which is free of pasty touch and is uniformly gelled is obtd. 23.12.77 as 154326 (4pp5)

AJIN ★ D13 62116B/34 ★ J5 4086-666
Refreshing cola drink with stable colour and flavour - contains phytic acid instead of phosphoric acid
AJINOMOTO KK 22.12.77-JA-154719
E11 (10.07.79) A23l-02/38

Phytic acid is a natural nontoxic substance, and the cola drink prepd. from it, instead of phosphoric acid, has a similar refreshing taste and odour and has more stable colour and flavour.

Usually phytic acid is used together with another organic acid. When phytic acid is used alone, it is used in an amt. of 0.1-0.8, pref. 0.2-0.6 w/w% of the drink. When used together with another organic acid, it is used in an amt. of 0.05-0.6, pref. 0.05-0.5 w/w% of the drink. 22.12.77 as 154719 (3pp5)

TOXN ★ D13 62117B/34 ★ J5 4086-669
Thermostable colourant for foods - comprises monascus colourant and laccaic acid
TOYO BREWING KK (NICH-) 20.12.77-JA-152369
(10.07.79) A23l-01/27 C09b-61 C12d-13

Thermostable colourant is composed of monascus colourant and laccaic acid in the ratio of 1:0.5-2 expressed on the colour value.

As monascus colourant not only monascus colourant itself, but also monascus colourant complex with protein, peptide, amino acid, nucleotide, nucleic acid base, etc. can be used. The colour value can be determined by dissolving monascus colourant and laccaic acid in solvent such as water, ethanol, etc. respectively and measuring optical density (OD) of the solns. at their max. absorption (monascus colourant : 490-520 nm, laccaic acid: 530 nm wave length). The colour value 1 is so defined that the 0.1% soln. shows OD 0.001.

The mixt. of monascus colourant and laccaic acid is stable to heat and is not discoloured by heating. The obtd. colourant compsn. is used for the uses requiring heating such as sausage, hamburg, roast meat, boiled octopus, boiled beans, bean jam, jam, sweet bean jelly, etc. 20.12.77 as 152369 (9pp5)

KIKK ★ D13 62124B/34 ★ J5 4086-697
Syoyu prepn. - by treating it with cellulose-fixed tannin, gives prod. relatively free of oxidn. discolouration
KIKKOMAN SHOYU KK 23.12.77-JA-154520
A97 (10.07.79) A23l-01/23

Method comprises contacting 'syoyu' with cellulose-fixed tannin at 35-45°C.

Pale reddish 'syoyu' almost free from discoloration by oxidn., can be prepd.

The cellulose-fixed tannin is insoluble in water and is prepd. by bonding ≥1 tannin cpd(s) selected from tannin, activated tannin, tannin-amino derivs. and tannin-carboxyl derivs. with ≥1 cellulose cpd(s) selected from cellulose, activated cellulose, cellulose-amino derivs. and cellulose-carboxyl derivs. through covalent bond. Usually cellulose-fixed tannin is used 1/50-1/400 pref. 1/50-1/200 in volume on 'syoyu' and starting 'syoyu' is passed through the column packed with the fixed tannin at 20-80°C pref. 35-45°C with SV 2-40 pref. 2-20 depending on the colour of 'syoyu' required. 23.12.77 as 154520 (7pp5)

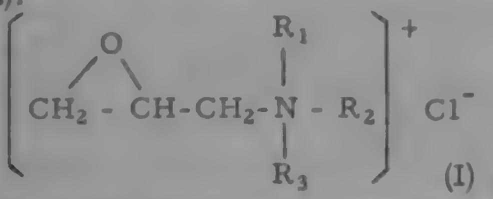
FUJC ★ D13 62277B/34 ★ J5 4087-786

Quat. nitrogen-contg. cellulose derivs. prodn. - using 2,3-epoxypropyltri:alkyl-ammonium chloride as quaternising agent in presence of methanol and e.g. acetone as solvents

FUJI CHEMICAL IND KK 26.12.77-JA-158018

A11 (D15) (12.07.79) B01d-21/ C08b-15/06 C09k-03/16*

Quat. nitrogen-contg. cellulose derivs. having a 2,3-epoxypropyltrialkylammonium chloride substitution degree of > 0.3 are produced by reacting (1) alkali cellulose react with (2) 2,3-epoxypropyltrialkylammonium chloride of formula (I) as the quaternising agent in the presence of (3) reaction solvents comprising (a) methanol and (b) ≥ 1 cpd. selected from acetone, tert-butyl alcohol, isopropanol and acetonitrile in a wt. ratio of 10-80: 90-20 in amts. of 0.3-8 pts. wt. to 1 pt. wt. of cellulose consituting component (1).



$$\left[\overset{O}{CH_2 - CH}-CH_2-\overset{R_1}{\underset{R_3}{N}} - R_2\right]^+ Cl^-$$

(I)

In (I), R_1, R_2 and R_3 are each lower alkyl.

The obtd. cellulose derivs. having a quaternising agent substitution degree of 0.3-0.8 are water-insoluble and highly cationic, and are used pref. as a cellulose ion exchange medium. The cellulose derivs. having a quaternising agent substitution degree of > 0.8 are water-soluble, and are used as coagulants and as antistatic agents. 26.12.77 as 158018 (7pp136)

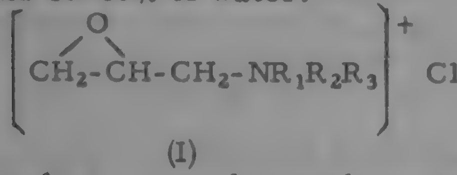
FUJC ★ D13 62278B/34 ★ J5 4087-787

Quat. nitrogen-contg. cellulose derivs. prodn. - using 2,3-epoxypropyl tri:alkyl-ammonium chloride as quaternising agent in presence of methanol and e.g. acetone

FUJI CHEMICAL IND KK 26.12.77-JA-158019

A11 (D15) (12.07.79) B01d-21/ C08b-15/06 C09k-03/16*

Quat. nitrogen-contg. cellulose derivs. having a 2,3-epoxypropyltrialkylammonium chloride substitution degree of > 0.7 are produced by allowing (1) alkali cellulose 1 to react with (2) 2,3-epoxypropyltrialkylammonium chlorides of formula (I) (where R_1, R_2, R_3 are lower alkyl) as the quaternising agent in the presence of (3) the reaction solvents comprising (a) methanol and (b) ≥1 cpd. selected from acetone, tert-butyl alcohol, isopropanol and acetonitrile in a wt. ratio of 20-70:80-30 in amts. of 0.3-8 pts. wt. to 1 part wt. of cellulose constituting Component (1). Pref. the starting raw material, alkali cellulose 1 comprises 20-50 % of cellulose, 5-30% of sodium hydroxide and 40-60% of water.



$$\left[\overset{O}{CH_2-CH}-CH_2-NR_1R_2R_3\right]^+ Cl^-$$

(I)

The present cellulose derivs. having a quaternising agent substitution degree of > 0.7 is highly cationic, being used as a coagulant and an antistatic agent. 26.12.77 as 158019 (9pp136)

ORIY ★ D13 62507B/34 ★ J5 4089-047

Additive for boiled rice - contains L-ascorbic acid, sodium inosinate, sodium glutamate, organic acid and sugar

ORIENTAL YEAST KK 24.12.77-JA-156179

E19 (14.07.79) A23l-01/18

Additive comprises (a) 5000-0.2 mg L-ascorbic acid; (b) 15-0 mg Na inosinate; (c) 200-0 mg Na glutamate; (d) 1500-0 mg organic acid (e.g. citric acid); and 6000-0.1 mg sugar.

Agent not only improves the taste, flavour, colour and glossiness of the boiled rice, but also has an antiseptic effect. It supplies the nutrients which are deficient in the boiled rice. Rice contg. 5000 mg L-ascorbic acid can be used for 'sushi'. 24.12.77 as 156179 (2pp5)

TOPP ★ D13 62508B/34 ★ J5 4089-057

Preservation of scallion - by packaging in e.g. polyethylene with preservative contg. ferrous sulphate hepta:hydrate, calcium hydroxide and opt. sodium bi:carbonate

TOPPAN PRINTING KK 26.12.77-JA-157014

A92 (14.07.79) A23b-07

Method comprises packaging scallions in vessels together with a preservative (I) which can deoxidise or deoxidise and form CO_2 gas and is packaged in a gas-permeable and water-permeable material. (I) consists of ferrous sulphate heptahydrate, calcium hydroxide and opt. sodium bicarbonate as major components and active carbon, iron powder, etc. as minor components.

The oxygen concn. in the vessel can be decreased and i necessary CO_2 gas can be formed in the vessel. Thus, the respiration of scallions can be suppressed and scallions can be kept green without withering for a long time. The vaporisation of water from scallions is prevented by packaging in vessels of plastic material, e.g. polyethylene. 26.12.77 as 157014 (3pp5)

SANW- ★ D13 62511B/34 ★ J5 4089-062

Paste food prepn. - involves use of processed starch and waxy starch mixed in presence of fatty acid mono-glyceride

SANWA SHOJI KK 26.12.77-JA-157044

(14.07.79) A23l-01/32

Method comprises adding a starch mixt. obtd. by mixing 100 pts. of oil and fat-processed starch and 10-80 pt. of waxy starch in the presence of fatty acid monoglyceride, in the material for pasty food.

By the starch mixt. oil and fat-processed starch and waxy starch act synergetically and it serves as the excellent filler for pasty food. Foodstuffs which is equal to high grade pasty food in texture, appearance, taste, resistance to tendancies to revert to prior state on freeze-preservation, etc. can be obtd. 26.12.77 as 157044(6pp5)

TAKE ★ D13 62512B/34 ★ J5 4089-063

Egg-based food, e.g. steamed egg custard, prodn. - by adding glycerine fatty acid mono:ester and sodium pyrophosphate to liq. egg and heat-coagulating

TAKEDA CHEMICAL IND KK 23.12.77-JA-156274

E17 (E34) (14.07.79) A23b-05 A23l-01/32 A23l-03/34

Method comprises combining 0.01-1 w/w% of a glycerine fatty acid monoester (I) and 0.1-2 w/w% of sodium pyrophosphate (II) with liq. egg and heat-coagulating the liq. mixt.

(I) and (II) act synergically for improving the taste and flavour and preservative property of the obtd. egg food which is e.g. steamed egg custard, custard pudding, egg roll, pot-steamed hotchpotch, etc.

Pref. (I) is a monoglyceride of an 8-12C fatty acid and is used in an amt. of 0.01-0.1 w/w% in the objective egg food. (II) is used in an amt. of 0.1-2 (0.2-1) w/w% in the objective egg food. To improve the dissolving velocity of (II), a dissolving aid such as potassium pyrophosphate, lactose, dextrin, etc. may be used. 23.12.77 as 156274 (6pp5)

TOXW ★ D13 62513B/34 ★ J5 4089-066

Sweetener prodn. for use as cane sugar substitute - by extracting Stevia plant and purifying soln. by electrolysis

TOYO INK MFG KK 27.12.77-JA-156361

B03 E13 (14.07.79) A23l-01/22 C07h-01/08

The Stevia plant having leaves is finely crushed and an extract soln. is produced from the resulting pulverised material. The soln. is electrolysed to remove impurities.

Typically, 600 litres of the extract soln. is mixed with 600 g sodium chloride and the electrolysable extract soln. is fed at 30 l/hour into a 30 l electrolysis tank in which electrolysis chambers are defined with aluminium plates having a size of 250 mm (width)x300 mm (length)x3 mm (thickness).

An electric current 50A, 10V is applied to the soln. to give a transparent effluent soln. having a light yellow colour. It is treated with a centrifuge and aluminium hydroxide sludge is sepd. The transparent, light yellowish soln. is passed through a column contg. ion exchange resin, i.e. a mixt. of Amberlite IR-120(H) (RTM) and Amberlite IRA-410(OH) (RTM) and it is desalted. It is decoloured with another ion exchange resin. The resulting transparent soln. is concd. and solidified with a spray dryer. Thus, a light yellowish powder is obtd. for use as a sweetening material. 27.12.77 as 156361 (5pp15)

KYOW ★ D13 62598B/34 ★ J7 9021-422

Sterilising processed food - by adding an enzyme and urea, thioglycolic acid or mercapto:ethanol, maturing and heat-treating

KYOWA FERMENTATION KK 03.08.71-JA-057968

E16 (E17) (30.07.79) A23l-03/34

Method comprises adding to processed food an enzyme cap ble of dissolving bacteria cell wall and urea, thioglyolic acid or mercaptoethanol, maturing for ca. 30 to 60 in., and heat-treating the food.

The method completely kills heat-resistant bacteria ithout affecting flavour of the food. 3.8.71 as 057968 231-3/34 (30.7.79) KYOWA FERMENTATION KK pp83)(J48023948)

PAR- D13 03930V/03 =J7 9021-423

hemical peeling of fruit and vegetables - with an inorganic mmonium salt in aqs soln

ETS DU PAROY 19.08.72-ES-406358

*E35 (30.07.79) *BE-803-246 A23l-01/21*

qs. soln. contains ≥1 inorganic salt of the type which ives a pH of 7-9.5, pref. 8.1-8.4 in a 0.5-15%, pref. 1-% aqs. soln. at 20°C, e.g. mono-, di- and tri-ammonm orthophosphate.

Fruits and vegetables which can be peeled or skinned ithout damage, only the skin being removed, include eaches, carrots, applies, salsify, etc., using 0.5-15% qs. solns. of the ammonium salt. 17.8.73 as 092355 clg. 19.8.72-ES-406358) A231-1/212 (30.7.79) ETS DU AROY (3pp)(J49132281)

AOL ★ D13 62599B/34 ★J7 9021-424

rocessing seaweed - includes washing with water, blending with alt, air-drying, coating with edible oil and exposing to microwaves

SANYO ELECTRIC KK 01.11.71-JA-086936

(30.07.79) A23l-01/33

ethod comprises washing seaweed with water, blending he seaweed with salt, drying the seaweed with air at 30 to 0°C to a water content of 10 to 25%, coating the seaweed ith edible oil, and exposing the coated seaweed to microaves to effect complete drying and foaming. 1.11.71 as 86936 A231-1/337 (30.7.79) SANYO ELECTRI (3pp83) J48049947)

RIKE- ★ D13 62600B/34 ★J7 9021-425

Dried seaweed prodn. - by blending seaweed with salt, freezing, removing free ice and salt, cutting and drying the seaweed with hot air

RIKEN SHOKUHIN KK 23.07.74-JA-084479

(30.07.79) A23l-01/33

Method comprises blending 100 pts. wt. seaweed with ≥ 50 pts. wt. salt, freezing the salted seaweed, removing free ice and salt from the frozen seaweed, cutting and drying the seaweed with hot air.

Dried seaweed of extremely low water content (< 10%) is obtd. at a high prodn. rate. 23.7.74 as 084479 A231-1/337 (30.7.79) RIKEN SHOKUHIN LL (3pp83)(J51012958)

KYOW ★ D13 62601B/34 ★J7 9021-426

Laver treatment - with enzymes capable of dissolving cell wall or polysaccharide to remove undesirable seaweeds

KYOWA FERMENTATION KK 19.10.71-JA-082138

(D16) (30.07.79) A23l-01/33

Method comprises treating laver with enzyme (I) capable of dissolving cell wall or polysaccharide. (I) is e.g. cellulase, agarase, etc. The treatment completely removes undesired seaweeds e.g. Diatomaceae, Myxophyceae, etc. and gives laver product of high quality. 19.10.71 as 082138 A231-1/337 (30.7.79) KYAWA FERMENTATION KK (3pp83)(J48048660)

KYOW ★ D13 62602B/34 ★J7 9021-427

Laver treatment with enzymes - to improve taste and flavour

KYOWA FERMENTATION KK 29.10.71-JA-085545

(D16) (30.07.79) A23l-01/33

Method comprises treating laver with > 2 type of enzymes selected from Protease, Lytic enzyme (lysis), Macerating enzyme and cellulase. The treatment improves taste and flavour of laver products. 29.10.71 as 085545 A231-1/337 (30.7.79) KYAWA FERMENTATION KK (3pp83) (J48049948)

HAYA/ ★ D13 62603B/34 ★J7 9021-428

Mfg. laver food with excellent flavour and taste - by baking laver leaves in sealed oven using radiant heat, to reduce water content to 2-3 per cent

HAYASHI N 24.07.74-JA-084938

(30.07.79) A23l-01/33

Method comprises drying rapidly fresh leaves of laver, and baking the laver in a sealed oven by radiant heat to reduce its water content to 2-3%. The treatment destroys cell walls of laver, giving excellent flavour and taste. 24.7.74 as 084938 A231-1/337 (30.7.79) NOBUYUKI HAYASHI (2pp83)(J51015665)

NISW ★ D13 62604B/34 ★J7 9021-429

Fibrous protein with improved colour, water retention and flavour - modified with bean curd waste material

NISSHIN OIL MILLS KK 21.07.71-JA-053860

(30.07.79) A23j-03

Method comprises dispersing bean-cured refuse in water, removing bean skin fraction, mixing the residue with fibrous protein in water, dewatering the mixt. and freezing the mixt.

The method markedly improves colour, water retention and flavour of the fibrous protein. 21.7.71 as 053860 A23j-3/00 (30.7.79) NISSHIN OIL MILLS KK (2pp) (J48019745)

INRG D13 36304X/20 =SU -632-291

Purifying proteins esp from sunflower kernels - by processing from suspension contg alkaline earth or magnesium salts and sodium sulphite (NL270476

INST NAT RECH AGRON 23.10.74-FR-035594

*(15.12.78) *DT2546-787 A23j-01/14*

Purified protein extracts are produced by (1) prepg. a suspension or paste of a press cake of protein material pref. sunflower kernels, contg. slimy components, with 10-15 x vol. (in l) or 3-5 x wt. (in kg) w.r.t. wt. of press cake, of a soln. (A) of one or more alkaline earth metal salts, but which always contain Mg salts and also Na_2SO_3, and admixing the suspension or paste with sufficient conc. alkali soln. to solubilise the proteins, (2) sepg. the protein-contg extract from the insoluble residue, (3) acidifying the clarified protein-contg. extract with an acid soln. to pH 4.5-5.5 to ppte. the proteins, and (4) sepg. the protein-contg. ppte. from the mother liquors, and washing. Protein extracts obtd. are free from slimy substances, contain very few pigments and contain ≥16% N. Sepd. proteins are used for food prodn. e.g. in spun form.

Peti, L., Davenne, A., Gaugain, J. Bul. 41/5.11.78. 23.10.75 as 183758 (3pp)

MOGI= ★ D13 62669B/34 ★SU -632-337

Condensed milk cooling and crystallising apparatus - with falling film agitated by rotary shaft blades having elements bent alternately in opposite directions

MOGILEV TECHNOL 14.03.77-SU-463076

(16.11.78) A23c-03 A23c-09

The apparatus comprises a vertical cylindrical housing with a cooling jacket and holding a rotary shaft with blades having bent back ends. To improve product quality by providing uniform crystallisation, the edge of each blade is divided over the height by slots into equal-sized elements.

The elements are bent back alternately on opposite sides, while rotor diameter to the elements of one direction exceeds the diameter to opposite elements. Elements of the same direction on adjacent blades are staggered relative to the elements of opposite direction on the same blades.

The arrangement produces repeated changes in direction of a falling film to produce intensive cooling and uniform lactose crystals of 10-15 um size;

Fedorov, G.S., Kirkor, A.V. Bul. 42/15.11.78. 14.3.77 as 463076 (3pp1358)

AKVL= ★ D13 62670B/34 ★SU -632-338

Tea leaf rolling machine - with temp. control circulation in wall of open bottom drum on oppositely rotating table, to reduce tannin loss

AKHVLEDIANI M K 14.12.76-SU-430794

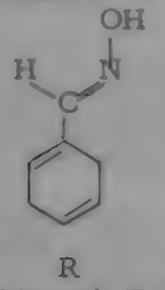
(20.11.78) A23f-03/04

The tea-leaf rolling machine includes a charging drum with a top feed system and open bottom resting on a table, the drum and table rotating in opposite directions. To reduce losses of tannin by maintaining optimum temp. of the leaf, the drum has several hollow protrusions located along its generatrix, each being of triangular cross-section with rounded apex and fitted with supply and discharge connect-

ions for heating or cooling agent.
Akhvlediani, M.K., Kharebava, L.M. Bul. 42/15.11.78. 14.12.76 as 430794 (3pp1358)

STRI D13 80121W/48 = SU -632-689
1,4-Cyclohexadiene-1-carboxaldehyde syn-oximes - sweetening agents prepd. from aldehydes and hydroxylamine
STANFORD UNIVERSITY 10.06.74-US-477995
*B05 E15 (25.11.78) *US3919-318 C07c-131/08*

Syn-oximes of formula (I) are novel:



(where R is $MeOCH_2$ or MeOCHMe), and are used as sweetening agents with a high ratio of sweet-taste to off-taste, and with good stability and water solubility, making them esp. suitable for use in foods and beverages.

Mackintosh E., Lerome E.M.W., Staun H., Bul. 42/ 15.11.78 9.6.75 as 144123 (6pp)

TETR ★ D13 B/34 ★SW 7800-137
Sterilisation of lactase enzyme - by radiation or the use of a chemical agent, prior to mixing with lactose-contg. food such as milk
TETRA PAK INT AB 05.01.78-SW-000137
(06.08.79) A23c-09/10

Sterilisation and prepd. of lactase enzyme for mixing under aseptic conditions in the liquid form with a separately, heat sterilised lactose-contg. Food such as milk. The lactase, (a)energy rich radiation of wave or particulate character, or (b) the use of a chemical sterilising agent where the enzyme, if sterilised in the solid form under aseptic conditions, is dissolved in a previously sterilised liquid. 5.1.78 as 000137 (-pp1183)

COGG/ ★ D13 62985B/34 ★US 4163-472
Yogurt maker having heat sink and fermentation compartment - within insulated housing divided by thermal barrier to control rate of heat transfer to compartment
COGGER M 22.06.77-US-809065
Q78 (07.08.79) A23c-03/02 A23c-09/12 F28d-13

A yogurt maker comprises an insulated housing which is divided into a fermentation compartment and a heat sink compartment by a thermal barrier partition. An aperture is provided in the thermal barrier to govern the rate of heat transfer from the heat sink compartment to the fermentation compartment.

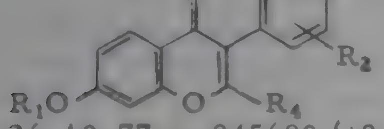
A vent is provided in the fermentation compartment to supply the required air for fermentation to make yogurt. The heat sink provides, the sole source of thermal energy to maintain the fermentation compartment at fermentation temp. during the fermentation.

The yogurt maker is for domestic use and is inexpensive. It does not require electrical power. 22.6.77 as 809065 (4pp1044)

CHIN D13 08505W/05 = US 4163-746
Isoflavone derivs for mixing with feedstuffs - and also as anabolics in osteoporosis and as weight-reducing agents and anti-cholesteraemic agents
CHINOIN GYOGYSZER 09.07.73-HU-CI1396
*B02 C02 E13 (07.08.79) *NL7408-995 C07d-311/02*

Anabolically effective isoflavone derivs. of formula (I) are new, where R_1 is methyl, (hydroxy)ethyl or isopropyl, and R_{2-4} are H.

(I)



(I) are used as pharmaceuticals (esp. anorexigenic agents) and as weight gain promoters in animal feeds, and are non-oestrogenic. 26.10.77 as 845680 (+8.7.74-US-486513) (6pp997)

DOWC ★ D13 63080B/34 ★US 4163-795
Stabilising aq. antimicrobial alpha halo amide compsns. - with azine or nitrile cpd. such as cyanuric acid, succinonitrile or cyanoguanidine
DOW CHEMICAL CO 14.12.77-US-860540
A97 C03 E16 (A25 C02 D15 E13) (07.08.79) A01n-09/20

Aq. antimicrobial compsn. of pH 2-5 comprises a mixt. of (a) an α-halogenated amide antimicrobial cpd. of formula R_1-CBrX-CON$(R)_2$ (I), (b) a water miscible organic solvent sufficient to dissolve (I), (c) coater and (d) a stabiliser cpd. contg. $>$C=N- and/or -C≡N gp.(s).

The organis solvent is pref. a (poly)alkylene glycol s as polyethylene glycol 200, tetraethylene glycol, polyethylene glycol 400, diethylene glycol dimethyl ether 1,4 butanediol, triethylene glycol, diethylene glycol phenyl ether, diethylene glycol phenyl ethyl ether. Suitable stabilisers include cyanuric acid, 2-chloro-4,6-(ethylamino) -s-triazine (sic), succinonitrile, cyanoguanidine etc.

In the formula X is H, hal or CN; each R is independently H, hydrocarbyl or -N$(R)_2$ forms 4-10 membered heterocyclic ring; R_1 is CN or -CON$(R)_2$. Compsns. are antimicrobial agents for aqs. systems and for sterilising dry cleaning fluids. 14.12.77 as 860540 (8pp96)

PINE- ★ D13 63084B/34 ★US 4163-80
Soft frozen served yogurt food prod. - obtd. from a liq., non-froze shipped yogurt base and sweetener base
PINE STATE CREAMERY 04.03.77-US-774415
(07.08.79) A23c-09/12

A sweetener base comprises by wt. 21.4% whole milk contg. approx. 3.3% butterfat, 3% cream, 6.7% skim mil powder, 3% dried whey, 55.8% liq. cane sugar (approx. 67.5% solids), 3.9% stabiliser and 6.2% water.

A yogurt food prod. is prepd. by blending approx. 4.9 wt.% dried skim milk powder with approx. 41.3% fresh skim milk; adding the blend to approx. 46 wt.% whole mil blending approx. 0.5 wt.% stabiliser and approx. 7.3wt.% liq. cane sugar and adding the blend to the obtd. mixt., pasteurising and homogenising the mixt; cooling it to 110-114°F; adding 1.5-2.5% a yogurt culture; allowing the : mixt. to stand for 2.5-4 hrs. to pH 4.2-4.4; cooling it to 40-45°F; and adding the sweetener base to the obtd. yogur base.

The yogurt base can be shipped from the processing plant to retail outlets in a liq. non-frozen state. Flavourin can be added at the retail outlet to give greater versatility to the retailer while eliminating the logistical problem of multi-flavoured shipments. A smooth, non-grainy, non-clogging yogurt prod. suitable for soft frozen served applications is obtd. 4.3.77 as 774415 (5pp558)

GOLD/ ★ D13 63085B/34 ★US 4163-803
Turmeric compsn. contg. glycine - to reduce the bitterness
GOLDSCHER K J 19.07.78-US-926226
(07.08.79) A23l-01/22

A compsn. for colouring or flavouring food contains (a) turmeric,or a deriv. of turmeric contg. curcumin and having a bitter taste, and (b) sufficient glycine to substantially reduce or eliminate the bitter taste.

The glycine can be natural or synthetic, and can be in the form of purified hydrolysed vegetable protein, α-,β-, γ-glycine, or anionic or cationic salts. The wt. ratio of glycine to turmeric is generally 0.1-5. 19.7.78 as 926226 (4pp955)

BEAF D13 60130B/33 = US 4163-804
Expandable pelletised animal part-derived thermoplastic compsn. prepn. - by drying, comminuting, mechanically degreasing, softening, extruding, cooling and cutting
BEATRICE FOODS CO 08.02.78-US-876124
*C03 (07.08.79) *DT2822-658 A23l-01/31 + A23j-03*

A puffable thermoplastic compsn. is prepd. by drying raw animal parts contg. ≤25% hot oil rendered pts. to moistur contents of 10-25%; and comminuting the dried pts. to particles of dimension size <0.25 inches.

The comminuted particles are then mechanically defatted at <200°F to an av. fat content of <18% such that the protein contained in the particles is not denatured. The defatted particles are then macerated in an extruder barrel at 250-330°F under sufficient pressure to cause mastication and gelatinisation of the particles, and form a thermoplastic mouldable mass. The mass obtd. is extruded into a shape sustaining extruded form which is cooled to 215°F, and cut into puffable pellets when cooled.

The pellets obtd. may be puffed in hot oil to a prod. resembling fried port skins, or thermoformed into decorative shaped, such as chewable dog bones. 8.2.78 as 876124 (7pp931)

CMZ ★ D13 63086B/34 ★US 4163-805
econstituted semi-crisp food prod. contg. alginate - gelled with
alcium salts, esp. as stuffing for olives
SCM CORP 23.12.76-US-753805 (24.12.75-US-644108)
(07.08.79) A23l-01/04

econstituted food prods. contg. a semi-crisp natural ood material, and having the same texture and taste as the ood on which they are based, are prepd. by (a) blending 30-75 wt. % of comminuted unsalted food material with a mixt f water, an effective amt. of a water-soluble alginate binder and one or more mono- or disaccharide sugars of low weetness level, using 97.5-80 pts. sugar to 2$\frac{1}{2}$-20 pts. lginate, the two together forming 6-24% of the formulation) forming the mixt. into shapes; (c) contacting with a soln ontg. calcium ions to gel the shapes and produce the semi crisp texture, and (d) cutting the shaped to size.

Used esp. for making pimiento pieces for stuffed olives hat can be inserted mechanically, requiring less labour nd producing less waste than the conventional process. The tuffings have a realistic texture and taste. 23. 12. 76 as 753805 (6pp955)

MERI ★ D13 63088B/34 ★US 4163-807
Stabilised fruit juice or drink - contg. xanthan gum and
carboxymethyl-cellulose
MERCK & CO INC 15.03.78-US-886717
A97 (A11) (07.08.79) A23l-02/02

A citrus fruit juice or drink contg. fruit pulp also contains 0. 01-0. 1wt. % xanthan gum and 0. 01-0. 14 wt. % sodium CMC having a degree of substitution of $\geqslant$0. 7, both wt. % being w. r. t. total wt. of compsn.

The juice has improved stability and homogeneity, and the pulp remains suspended on standing. Appearance, taste and mouthfeel are also improved. 15. 3. 78 as 886717 (3pp)

DEPA/ ★ D13 63089B/34 ★US 4163-808
Imitation mayonnaise or salad dressing - contg. soy protein as main
emulsifier
DEPAOLIS P U 10.03.78-US-885309
(07.08.79) A23l-01/24

Imitation mayonnaise or imitation salad dressing is prepd. by (a) mixing 3-10 wt. % soy protein, 20-60 wt. % water, spices and seasonings, and $\leqslant$10% of the final salad oil content, for $\geqslant$5 mins; (b) blending in 0. 1-2 wt. % vinegar; and (c) adding additional salad oil to bring the total oil content to 40-80 wt. % under high shear.

The compsns. are free of eggs and low calorie. They have improved emulsion stability and resistance to syneresis. 10. 3. 78 as 885309 (3pp955)

CADB ★ D13 63140B/34 ★ZA 7802-788
Dried food prod. - comprising pieces of dried food and dry coating
of sauce-making mixt.
CADBURY TYPHOO LTD 19.05.77-GB-021075
(10.04.79) A23l-01

See Also

D15 J5 4088872
D16 EP ---3644
D23 EP ---3515
D15 US 4163725
D16 J7 9021438
D23 DS 2721002
D16 EP ---3524
D16 ZA 7802875

D14: FOODSTUFF MACHINERY

SCMA D14 33604A/19 =DS 2648-709
Cylindrical autoclave assembly - with cage loading and unloading
by telescopic power cylinder
SCHMALBACH-LUBECA 27.10.76-DT-648709
*P34 (16.08.79) *DT2648-709 A23l-03/10 A61l-03*

Loading baskets for autoclaves are loaded into and withdrawn from the autoclave by means of a reversible mechanical or hydraulic drive arranged with its direction of displacement parallel to the axes of the autoclaves and attached to the rearmost basket of each autoclave. The device is partic. suited to rear loading autoclaves arranged in horizontal banks so that the one reversing mechanism can load or unload all of the autoclaves in a bank at one time.

Since the hand labour of pushing the baskets into the autoclave is eliminated, the goods carried in the baskets are not subjected to rough handling and the loading and unloading is considerably more economic. 27.10.76 as 648709 (5pp1370)

DRIA- ★ D14 61638B/34 ★DT 2805-801
Granulates esp. pastilles coated and dried in revolving drum - with
air entering through inclined perforated wall zones to improve
distribution
DRIAM METALLPRODUKT 11.02.78-DT-805801
P42 (16.08.79) A23g-03/20 B05c-03/08

Appts. for coating granulates such as the cores of pills, pastilles, sweets, etc. to provide an outer casing consists of a revolving drum with horizontal axis and vent connections through perforated parts of the wall to admit and discharge air or other drying gas during the drying process. The air ducts are connected at the ends of the drum to a stationary distributor mounted coaxial to the drum. The connections are such that the air or gas enters the lower part of the bed of granulate and is blown upwards through it.

The central, cylindrical wall of the drum is continuous and the vent connections in the form of perforated wall sections are all arranged inclined to the cylindrical wall. Pref. the air is supplied to the vent connections through radial, hollow external blades mounted on the end walls of the drum.

Economic construction, uniform distribution of the air and thorough mixing of the granulates are achieved. 11,2.78 as 805801 (18pp236).

BERE/ ★ D14 61649B/34 ★DT 2805-942
Homogeniser esp. for mayonnaise creams and emulsions - has
different operating cycles according to viscosity of mixture
BERENTS A 13.02.78-DT-805942
(16.08.79) B01f-07/18

A homogeniser mixer for producing flowable products, esp. mayonnaise, emulsions, creams and the like, where the viscosity is changed during the prodn. process, consists of a mixing vessel with a connected but external revolving homogeniser at the bottom of the vessel. The discharge from this homogeniser passes through a three-way valve to a final discharge and also to a recycling line leading back to the top of the mixing vessel.

The outlet from the homogeniser is also connected to the interior of the mixing vessel via a narrow throttling gap or gaps, esp. an annular gap. The total cross-section of the throttle is small compared to that of the homogeniser outlet. Pref. there is a shut-off valve between the homogeniser outlet and the three-way valve.

In the initial mixing phase, when the liquid is very thin, the shut-off valve can be closed and the revolving homogeniser extracts liquid through its inlet from the bottom of the vessel and passes it back through the narrow throttling gap into the vessel, regardless of the level of liquid in the vessel. When the liquid is more viscous, it is still initially forced through the annular gap until this becomes impossible, whereupon a sensor opens the shut-off valve and allows the material to be recycled. Finally, the contents can be discharged via the 2-way valve. 13.2.78 as 805942 (10pp236).

/MALF/ ★ D14 61869B/34 ★EP ---3-721

Sterilising and blanching food prod. in small pieces - rapidly heated and fluidised by high pressure vapour or gas

MALFANTI J B 10.02.78-CH-001483

Q31 (D22) (22.08.79) A23b-04 A23b-07 B65b-31/02

D/S: E(BE, DT, FR, GB, IT, NL, SW).

In a pressurised chamber, the temp. of the prod. is raised very quickly by contact with a hot vapour or gas which penetrates the outer layer of the prod. and which also serves to fluidise the prod. The heated prod. is then held under adiabatic conditions in a thermally insulated chamber. The holding time in the insulated chamber allows temp. to equalise from surface to centre of each prod. piece as well as effectively sterilising each piece right through. Pressure is reduced and the prod. cooled rapidly after which the prod. is transferred directly to a sterile packaging unit.

The temp. and pressure employed in the process are pref. higher than in conventional sterilisers in order to shorten the overall cycle time. For example, the heating fluid, e.g. steam, is supplied at between 130°C/172 kPa and 176°C/827 kPa to sterilise acid prods. at between 110°C and 133°C up to 168°C for proteins.

Used for simultaneous blanching and sterilisation of food prods. in small pieces, partic. pieces of fruit, vegetables, meat and fish. Faster processing and better quality prods. are obtd. The high temp. applied to the prod. ensures that prod. piece centre temp. rapidly equalises to surface temp. so the prod. surface does not have to be treated for unduly long periods.

8.2.79 as 810014 (18pp448).

(F) ISR: US3794500; US2876558; FR2150533; US3663719; FR1486467; US3982481.

PROF- ★ D14 61910B/34 ★FR 2408-802

Crop dryer which uses warm air recycled via heat pump - and evaporator which condenses out moisture and condenser which raises air temp.

PROFROID SA 10.11.77-FR-034515

Q76 (13.07.79) A23n-09 F26b-03/06 F26b-17/18 F26b-21/02

The installation now comprises a vertical silo contg. the crop to be dried. Hot air is blown upwards through the contents of the silo and recycled via a vapour compression refrigeration plant employed as a heat pump. Air from the silo is passed first through the evaporator, to be cooled and lose moisture by condensation. The dried air is then directed through the condenser to raise the temp. of the air prior to recycling through the silo.

The installation pref. comprises an elevator which periodically lifts prod. from the base of the silo and returns it to the top. The complete installation is pref. enclosed in a thermally insulated casing. Several silos are pref. arranged around a central elevator which recycles the contents of each silo in turn.

Crop dryer is partic. for cereals such as wheat, maize etc., vegetables such as peas and beans, fruits such as plums and nuts such as almonds. High thermal efficiency is achieved by insulating the complete installation and using both the evaporator and condenser units of the refrigeration plant. Pre-filtered air is continually recycled so that there is no danger of contaminating the crop with external smells and flavours. 10.11.77 as 034515 (11pp448).

INME- D14 41078Y/23 =GB 1551-153

Root crop tip removal machine - uses centrifugal force to move and rotate prod. and hold when cutting

INMEKTOR KY 20.11.75-SF-003264

*+P62 (22.08.79) *NL7612-878 A23n-15/04*

The ends of elongate root crops are removed in appts. which has a centrifugal device to guide the crop into circularly arranged rotary channels which move the crop to a prim. cutter to remove one end of the crop, and sec. rotary channels outward of the first to receive the crop with the cutends uppermost.

The sec. channels are inclined to cause, under gravity and centrifugal force, the crop to be urged gainst a guard plate and passed a rotary cutter which removes the lower end of the crop.

A rotary drum inward of the prim. channels pref. guides the crop to those channels. 9.11.76 as 046530(6pp

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BLUE- ★ D14 63023B/34 ★US 4163-676

Pump sprayable lecithin pan lubricant - contg. lower alcohol to reduce viscosity

BLUE CROSS LAB 03.04.78-US-892488

E11 (D23) (07.08.79) C08l-91

Lubricant contains 2.5-65 pts. lecithin per 100 pts. compsn. the rest being an anhydrous vehicle free of mineral oil, contg. 2.5-25 pts. monohydric 2-3C alcohol and 10-95 pts. edible vegetable oil.

The alcohol lowers the viscosity so the prod. can be sprayed evenly over a wide area. Pump spraying avoids the need for fluorocarbon propellants. 3.4.78 as 892488 (3pp955)

WHIT- ★ D14 B/34 ★ZA 7803-575

Appts. for applying powder flavouring to solid foods - has device for applying electrostatic potential between food and powder

WHITE STEVENSON LIM (VOLS-) 19.08.77-GB-034929

(23.05.79) A23l

Appts. has a delivery zone and a collection zone, means for causing articles of food to travel progressively from the delivery zone to the collection zone along a path, means between the zones for applying the powder flavouring to the articles, and means for applying an electrostatic potential between the articles and the powder. 22.6.78 as 003575 (14pp)

CALP- ★ D14 B/34 ★ZA 7804-322

Appts. for bisecting and pitting drupe-type fruits - includes gripping heads which grip fruit halves and which are rotated in opposite directions

CALIFORNIA PROC MAC 31.07.78-ZA-004322

(21.06.79) A23n

Appts. comprises means for partially cutting the pulp to define two fruit halves adhered to the pit. Grippers grip the outer surfaces of the two halves. Each gripper head has an elastic, cup-like diaphragm for engaging with the fruit halves.

The space between each gripper head and respective diaphragm is fed with pressurised fluid to deform the diaphragm to the shape of the fruit halves. Valves control supply of the pressurised fluid. The gripping heads are rotated in opposite directions while the diaphragms grip the fruit so the fruit halves are sepd. from each other and from the pit. 31.7.78 as 004322 (28pp)

D15: WATER TREATMENT

RE/ ★ D15 B/34 ★CS 7700-910
. effluent purification - during admixture with large amounts of n or other waters
KOREJS J 11.02.77-CS-000910
(31.05.79) C02c-01

RE/ ★ D15 B/34 ★CS 7703-085
pts. introducing air or gas into liquid
KOREJS J 11.05.77-CS-003085
(31.05.79) C02g-01/10

RO D15 38597S/23 =DS 1658-062
mbrane separator in a biological reactor
DORR OLIVER INC 09.09.66-US-578374
*(16.08.79) *CA-872-378 +C12b-01/26*

ologically living material (I) is concentrated from a liq. rrier contg. foodstuff convertible by (I), e.g. household d industrial waste water. The liq. carrier and (I) is ssed from a reaction chamber to a sepn. appts. contg. a mipermeable membrane through which the liq. carrier sses but by which (I) is retained.

There is provided means to circulate the liq. from the eaction chamber to the membrane sepn. appts. and back ain. Part of the liq. is passed repeatedly through the pn. appts. to obtain a conc. stream, part of which is re- oved from the system to recover (I). 1.9.67 as 658062 pp068)

AC D15 62938T/40 =DS 2112-401
awater purification - by foam removal of organic matter and eavy metal ions
MAX PLANCK GES WISSENSCH 15.03.71-DT-112401
*(16.08.79) *DT2112-401 C02c-05 +C02b-01*

ater polluted with organic substances or heavy metal ns is cleaned by passing it through a mixing system here air is mixed into the water and then expanding the ixture in an expansion tank. The foam so created carr- es with it the contaminants and climbs through a riser ipe to be discharged whilst the clean water is removed rom the bottom of the expansion vessel. To prevent the radual loss of stability normally associated with this type f equipment, the foam riser walls are continuously wash- d with a solution of a higher pH than that of the foam. his ensures that a negative charge is maintained on the iser inner wall so that the ability to form foam at a low ontaminant concn. does not deteriorate with time. 15.3.71 s 112401 (6pp1370)

HEW D15 08353U/07 =DS 2229-012
enzotriazole-methylbenzotriazole mixtures - with synergistically ncreased solubility in water and other solvents
SHERWIN-WILLIAMS CO 14.06.71-US-152528
*E13 M14 +P73 (16.08.79) *DT2229-012 C23f-11/14*

q. mixt. inhibiting the corrosion of metals contains a ixt. of 40-98% benztriazole and 60-2% tolyltriazole and 5-30% of the amt. of Na or K theoretically required to eutralise the acid function of the triazoles. The total amt. f dissolved triazoles present is a function of the benztria- ole/tolyltriazole ratio and is > 5%. The soln. pref. also ontains 5-20% ethylene glycol or isopropanol. 14.6.72 as 29012 (6pp068)

ESJ D15 69407U/46 =DS 2263-752
iquid waste stabilization plant - with two stages and massive ecirculation
GENERAL SIGNAL CORP (GEN -) 11.04.72-US-242989
*+Q56 (16.08.79) *DT2263-752 C02c-03*

ffluent sludge is stabilised in a system comprising two eaction vessels which are maintained under pressure by eans of a feed pump for the sludge and a pressure main- aining device after each vessel. The sludge is mixed with n oxidising agent and fed into the first vessel. The dis- harge pipe from this vessel splits two ways so that a part f the discharge passes to the second vessel whilst the ther part passes, via the first pressure maintaining dev- ce back into the suction of the feed pump. The discharge rom the second vessel passes through the second pressure maintaining device and is discharged as stabilised effluent sludge with an acceptably low biological oxygen demand.

The system reduced the total reaction vessel volume required to achieve a predetermined degree of sludge stabilisation. 28.12.72 as 263752 (5pp1370)

STEM D15 88846X/48 =DS 2533-100
Continuous ion exchange treatment of liqs. - using turbulent beds for transport of the resin particles
STEINMULLER L & C GMBH 24.07.75-DT-533100
*J01 (16.08.79) *BE-844-041 B01d-12*

Liquids are treated by a continuous ion exchange process. The liq. to be treated flows through the ion exchange bed in countercurrent to another liq. so that the ion exchange particles are maintained without compacting and without migration. At the outer surfaces of the bed are vortex beds, one formed by the passage of a partial stream of liq. to be treated and the other by liq. carrying regenerated ion exchange particles.

Charged ion exchange particles are removed and approximately an equal vol. of regenerated particles are added. The regenerated particles may be returned with part of the already treated liq. 24.7.75 as 533100 (4pp068)

FARB D15 11126Y/07 =DS 2535-837
Oxygen addn. regulation in water and sewage purifícn. - using ejectors to secure intimate contact with activated sludge
BAYER AG 12.08.75-DT-535837
*(16.08.79) *BE-845-103 C02c-01/06*

Process for biological oxidn. of waste water comprises a multi-cascade sequence in which gases contg. O_2, ($\geqslant$ 20-45 vol. %), are finely dispered in vigorously agitated waste water. In the first two cascades, the O_2 content is 40-80 vol.% and 30-60 vol.%. The gases are partly recycled. The contact time is pref. 30-150 s and the oxidised water is removed tangentially at a flow rate 0.5-3 m/s. The fine dispersion is allowed to re-coagulate.

The amt. of O_2 in the water in the first cascade is 1-4 mg/l and in the second cascade the amt. of O_2 is 4-8 mg/l. 12.8.75 as 535837 (7pp047)

SANO ★ D15 61600B/34 ★DT 2805-265
Polyamido-amine flocculant prepn. - by reacting (meth)acrylamide polymer, formaldehyde, sec. amine and acid deriv. as stabiliser
SANDOZ-PATENT-GMBH 08.02.78-DT-805265
A97 F09 (16.08.79) C08f-08/32

Polyamidoamine cpds. (A) are prepd. by reacting, under neutral to basic conditions, (a) a polymer of acrylamide and/or methacrylamide and opt. further ethylenically unsaturated monomers, provided the (meth)acrylamide monomer/s together make up $\geqslant$5 mol %, (b) HCHO, (c) a sec. amine having formula HNR^1R^2 (I) (where R^1 and R^2 are 3-6C alkenyl, cyclohexyl, 1-6C alkyl or 2-4C hydroxyalkyl or R^1 and R^2 together are pentylene-1,5 or opt. -O-, -S- or $>$N-alkyl-interrupted butylene-1,4) and (d) an N-contg. functional acid deriv., as stabiliser, in which the functional gp. contains $\geqslant$1 -NH- gp. capable of equilibrium reaction with HCHO.

Reactant mol. ratio is such that y mol (I) and z mol (d) are used /mol carbamoyl gp. of polymer x mol HCHO, and $y = 0.1$ to 3 and $x = 0.1$ to $y+1$; provided $n.z + y + 1 \geqslant 2$ (where n is the no. of N-bonded H atoms in (d) capable of equilibrium reaction with HCHO under the reaction conditions used). The prod. obtd. is opt. converted to the acid adduct and/or quaternised.

(A) are used as flocculants, esp. for aq. colloidal solns. and aq. suspensions, and partic. as retention agents in the prepn. of filler-contg. paper in the presence of Al sulphate. 8.2.78 as 805265 (42pp200).

FARH ★ D15 61635B/34 ★DT 2805-793
Sewage purification with admixed sludge in activation chamber - with internal cycling through one or more loops
HOECHST AG 11.02.78-DT-805793
(16.08.79) C02c-01/06

Biological purification of sewage comprises gasifying a sludge-water mixt. in an activation chamber 10 - 30 m deep, into which the sewage, activated sludge and air are continuously supplied and from which an equiv. amt. of sludge-water mixt. is continuously removed. Inside the activation chamber the sludge-water mixt. and air are conducted around one or more loops.

More specifically, the air is introduced into either the upward flowing stream of the loop or the downward flowing stream of the loop; in the latter case additional mechanical energy is applied against the buoyancy forces of the bubbles. In a pref. arrangement, 1 - 15 loops or cycles are used.

Arrangement is more space saving than a cylindrical tower or tank in which there are no internal components. 11.2.78 as 805793 (7pp236).

FARH ★ D15 61636B/34 ★DT 2805-794

Sewage purification with admixed sludge in activation reactor - with conical surrounding trough at top to receive overflowing mixture

HOECHST AG 11.02.78-DT-805794

(16.08.79) C02c-01/06

An appts. for the biological purificn. of sewage and for degassing and clarifying sludge-water mixts. resulting from the biological purificn. stage comprises air injection equipment and inlets for sewage and activated sludge and has anoverflow for the discharge of sludge-water mixt..

The reactor contains a guide plate or tube for maintaining recycled circulation inside the reactor; the upper part of the reactor is surrounded by a downwardly tapering conical trough, the lower end of which is fixed to the outer wall of the reactor while the upper part contains an overflow gutter and an inlet gutter connected to the overflow for sludge-water mixture at the top of the reactor.

System is more economical and space-saving than a cylindrical tank containing no inbuilt components. Partic. favourable mass exchange is obtd..11.2.78 as 805794 (9pp236).

KOSS/ ★ D15 61700B/34 ★DT 2833-816

Rake for trash screen of water intake - is robust beam with two parallel downstream edges to diminish turbulence

KOSSLER E 13.02.78-OE-000992

Q42 (16.08.79) C02c-01/22 E02b-05/08

A rake for cleaning the trash screens of a hydroelectric plant or other water intake comprises a continuous bar, streamlined on the upstream side and having two separation edges (turbulence-diminishing edges) on the downstream side, parallel to each other and lying in a plane parallel to the surface of the screen; the distance between these two edges is large. Tongs for engaging in the trash screen may be mounted on one of the edges of the beam. Specifically, the downstream face of the beam is composed of a wall parallel to the screen.

A considerably stronger beamis possible than with previous arrangements where there was only one edge on the downstream side. Thus the beam can resist the bending moments applied to it and can be travelled downwards at some distance from the trash screen before being brought onto the face of the trash screen. 2.8.78 as 833816 (24pp236).

OUTO ★ D15 61720B/34 ★DT 2903-078

Tubular cell for voltameter or polarograph - increases sensitivity by causing turbulence in liquid in passing over electrode face

OUTOKUMPU OY 14.02.78-SF-000480

J04 R16 (16.08.79) G01n-27/46

The tubular cell, for a voltameter or polargraph, increases sensitivity by setting the liq. being analysed into turbulent motion. The liq. is injected into the cell at a speed that results in turbulence as a result of the fricton between liq. and the surface of the electrode.

The electrode is located at a constriction in the tubular cell through which the liq. flows. The electrode's operative surface is flush with the surface of the cell's wall at the constriction. The liq. is pumped at a speed that causes turbulence at least at the surface of the electrode. Useful in water analysis. 26.1.79 as 903078 (12pp).

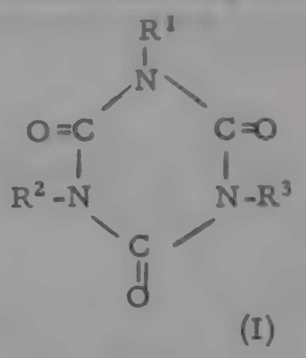
TORA ★ D15 61748B/34 ★DT 2904-9

Reverse osmosis membrane contg. tri:isocyanurate polymer prepd. by polymering isocyanuric acid deriv. or prod. and op comonomer on porous substrate

TORAY INDS INC 13.02.78-JA-014046

A88 J01 (A25) (16.08.79) B01d-13/02 C02b-01/82

A semipermeable membrane polymer having triisocyanurate structure is a reaction prod. of ≥1 isocyanuric acid deriv. having formula (I) and/or ≥1 water-soluble reaction prod. thereof (where R^1, R^2 and R^3 are H or 2-5C alkyl and ≥2 of R^1, R^2 and R^3 are alkyl gps. carrying an OH or glycidyl gp.), pref. coated on the surface of a microporous substrate.



(I)

Membrane use for reverse osmosis is claimed. Uses include water purificn. and material recovery from water. The membranes resist Cl_2 attack and have high dissolved material retention and flow throughput. (I) is esp. 1, 3, 5-tri-(hydroxyethyl)-, 1, 3, 5-tri-(glycidyl)- and/or di-(2-hydroxypropyl)-isocyanuric acid. 9.2.79 as 904979 (31pp200).

CHIY ★ D15 61765B/34 ★DT 2905-37

Biological sewage treatment by downward flow through tank contg. buoyant particles coated with anaerobic or aerobic bacteria

CHIYODA CHEM ENG CO 14.02.78-JA-015650

(16.08.79) C02c-01/02

A support in the form of a particle material having an apparent density less than that of water is used; the particles float in a tank, the sewage passing downwards through the tank and the treated sewage leaving from the bottom. From the bottom, it may be recycled back to the top of the bed. An excess quantity of micro-organisms adhering to the particles may be removed by applying shear force to the particles.

The micro-organisms may be anaerobic bacteria. Alternatively they may be aerobic bacteria, in which case air or oxygen-containing gas is blown into the lower part of the bed. The particles may be of plastics foam with an additionally roughened surface or a mixture of such particles with light foamed inorganic material.

As compared with previous fluidised bed or similar methods, there is no risk of the particles leaving with the discharged liq.. 13.2.79 as 905371 (38pp236).

FARH D15 61635B/34 =EP --3-547

Sewage purification with admixed sludge in activation chamber - with internal cycling through one or more loops

HOECHST AG 11.02.78-DT-805793

*(22.08.79) *DT2805-793 C02c-01/06*

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Biological purification of sewage comprises gasifying a sludge-water mixt. in an activation chamber 10-30 m. deep, into which the sewage, activated sludge and air are continuously supplied and from which an equivalent amt. of sludge-water mixt. is continuously removed. Inside the activation chamber the sludge-water mixt. and air are conducted around one or more loops.

More specifically, the air is introduced into either the upward flowing stream of the loop or the downward flowing stream of the loop; in the latter case additional mechanical energy is applied against the buoyancy forces of the bubbles. In a prefd. arrangement, 1-15 loops or cycles are used.

Arrangement is more space saving than a cylindrical tower or tank in which there are no internal components. 30.1.79 as 100256 (8pp236).

(G) ISR: DT2554440; CH-485476; US3872003; US3804255; US3092678.

FARH D15 61636B/34 =EP --3-548

Sewage purification with admixed sludge in activation reactor - with conical surrounding trough at top to receive overflowing mixture

HOECHST AG 11.02.78-DT-805794

*(22.08.79) *DT2805-794 C02c-01/06*

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

An appts. for the biological purificn. of sewage and for egassing and clarifying sludge-water mixts. resulting rom the biological purificn. stage comprises air injection quipment and inlets for sewage and activated sludge and as an overflow for the discharge of sludge-water mixt. The reactor contains a guide plate or tube (4) for mainaining recycled circulation inside the reactor; the upper art of the reactor is surrounded by a downwardly taperng conical trough (20), the lower end of which is fixed to he outer wall of the reactor while the upper part contains n overflow gutter (22) and an inlet gutter (21) connected o the overflow for sludge-water mixt. at the top of the eactor.

Pref. the internal guide member (4) is a tube of cross-section 0.1-0.7 times that of the reactor itself. From 1 to 15 such tubes may be mounted in the reactor. The vertical length of the tube is 30-90% of the column eight of the mixt. inside the reactor. The prefd. angle of he conical trough (20) is 10°-60°.

System is more economical and space-saving than a cylindrical tank containing no inbuilt components. Esp. favourable mass exchange is obtd.

30.1.79 as 100257 (9pp236).

(G) ISR: DT2554495; DT2554440; OE-326057; US3872003; CH-555785; FR2060224.

NIKE- ★ D15 61816B/34 ★EP ---3-607

Filtration and ion exchanging column - directs forward flow horizontally from vertical distributor and flushes vertically through same connections

NIKEX NEHEZIPARI 13.02.78-HU-DE0952

(22.08.79) B01d-23/12 B01j-01/04 C02b-01/66 C02c-05

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Fluids, esp. water are subjected to filtration and/or ion exchanging, in a column of granular processing material, such as sand for filtration, or ion exchanging material. The fluid flows horizontally through the material column. The fluid is distributed from a vertical slot taking up the whole of the horizontal width of the column at one side. At the other side of the column, the fluid is led away by a perforated collector tube having a smaller cross-section than the outlet slot, from the material column.

For the regeneration of the material column, after draining of the processed fluid, a regenerating fluid is fed from above downwards at high speed. The regenerating fluid is pressed through the perforations of the collector tube so that they are rinsed out clean. At the same time, the material granules in the neighbourhood of the collector tube are flushed and loosened. The regenerating fluid is then drained across the column and is wasted through an overflow.

The creation of dead zones of stagnated sand left by the flushing out process is eliminated. The separate recirculation pipes used normally also increase the investment and maintenance costs of the plant. The blocking of the recirculation pipes with sand also causes downtime and loss of output. The invention increases the efficiency of filtration and ensures quicker and more intensive regeneration and cleaning of the processing material. Special auxiliary pumps or compressors are not required.

12.2.79 as 100402 (26pp1014).

(G) ISR: —

BEST- ★ D15 61889B/34 ★FR 2408-553

Reception bunker for rubbish partic. from waste water screens - drains and cuts up the rubbish for compost or incineration

MASCHINENFAB BESTA 28.04.78-DT-818749 (10.11.77-DT-750194)

(13.07.79) C02c-01/22

The bunker is of the type which uses as its base a flat, inclined conveyor which is extended beyond both end walls of the bunker. The lower, upstream end of the conveyor provides an outlet for water draining from the bunker. The upper, downstream extension of the conveyor passes beneath a transverse discharge slot which is formed at the lower end of the bunker's, upper end wall.

A distribution drum is now fitted above the conveyor band, extending axially across the width of the band in the discharge slot and rotating in the direction of conveyed material. The conveyor bed extension beyond the upper end wall is pref. perforated for water drainage. A spring-loaded compression roller is pref. fitted across the top of the conveyor band downstream of the distribution drum. At the delivery end of the conveyor, a power-driven, toothed, breaker roll is pref. fitted across the top of the band.

Used for receiving and breaking down rubbish ready for incineration or mixing into compost. Partic. for the disposal of wet rubbish such as that raked out of screening grills at the inlet to a waste water treatment plant. The bunker can handle random sized rubbish including timber, rags and carrion. With blockage of the outlet, the discharged rubbish is pressure drained and delivered at an even flow of pieces of acceptable size. 10.11.78 as 031786 (13pp448).

DIST- ★ D15 61890B/34 ★FR 2408-554

Detoxicating water from surface treatment bath - esp. for metal or plastic, using resistivity measurement as control means

DISTRIBUT IND ANODE 09.11.77-FR-034376

A35 M14 (13.07.79) C02c-05

The process comprises continuous measurement of the resistivity of the rinsing bath for each type of toxic product to eliminate or for the whole bath by means of a probe immersed in the treatment bath(s). A resistivity level is fixed above which an electro-valve, commanded by the resistivity meter, opens to admit clean water, to reduce the resistivity to a fixed level. The polluted water withdrawn is passed to a purificn. vessel where the exact quantity of detoxicant is introduced controlled by the resistivity meter.

The process is carried out in an installation comprising (a) a rinsing bath linked to (b) a purificn. vessel; a source of fresh water for (a) and of detoxicant for (b); an electro-valve on the water feed and a pump for the detoxicant controlled via a resistivity meter linked to a probe in (a).

The process is used for the treatment of metal and plastic surfaces. It enables a reduction in the amt. of water and detoxicant used and is cheaper and easier than present methods. 9.11.77 as 034376 (8pp597).

AMCR D15 41939U/30 =GB 1324-358

Biosorption waste water treatment rotor - cellular surfaced discs stimulate activity

AMES CROSTA MILLS LTD 08.10.69-GB-049332

*(08.08.79) *GB1324-358 B01f-07/10 C02c-05/10*

Appts. for the biological treatment of waste water by biosorption has a rotar which alternately dips in the water to allow bacteria to adhere to its surface and is then exposed to air. The rotar provides closely spaced co-axial discs of circular or polygord form. Each is perforated to present a cellular structure. The rotar is formed by extruding two plastic multi start helices of opposite hand to form a netting tube which is split longitudinally.

Pref. the rotar has a number of parallel shafts connected by intermeshing gear wheels. 23.10.70 (6pp1376)

ANIS D15 68835Y/39 =GB 1550-756

Treating waste water to remove transition elements, esp. vanadium - with electrode couples to reduce alkaline precipitation

ANIC SPA 23.03.76-IT-021472

*M25 (22.08.79) *BE-852-799 C02c-05/12 + C25b-05*

Valency of variable-valency element of a cpd. (I) dissolved in an aq. medium is reduced by contacting the aq. medium contg. (I) with a short-circuited electrode system composed of two materials.

One material (II) has a negative standard electrode oxidn. potential (SEOP) and the other (III) has a positive SEOP. Contact is effected in the presence of a further element which is more electropositive in character than (II) and is different from (III).

Pref. the variable-valency element is V and/or the electrode system is a Cu-Fe system and the cpd. of the further element is a Ag cpd. Process is partic. suitable for recovering a variable valency element from waste water. 17.3.77 as 011496(4pp936)

BRTO ★ D15 61923B/34 ★GB 1551-005

Oxygenation of liq sewage - by dissolving high pressure oxygen in carrier solvent subsequently mixed with sewage

BOC LTD 13.05.75-GB-020074
(22.08.79) B01f-13/06 C02c-01/02

The liquid is oxygenated by introducing into a carrier solvent in a closed vessel enough of a pressurised oxygenating gas to form a soln. and to provide a gas pressure in an ullage space above the level of the carrier. The soln. under the gas pressure is introduced into the liq. to be treated. The gas pressure is used to assist in the transfer of the oxygenated carrier solvent from the closed vessel to the liq. to be treated.

Pref. the carrier solvent is the same as the liq. to be treated, and the ullage space occupies 10-30% of the vol. of the closed vessel.

Used to oxygenate liqs. such as sewage having a BOD. The liq. may either by stationary or flowing. The gas can be dissolved without the need to use high pressure pumps. 13.5.76 (7pp295)

JONE/ D15 82661Y/46 =GB 1551-049

Liquid sampling appts. for waste waters - has liq. pumped through sample duct for preset time

JONES R W 19.12.75-GB-052233
*J04 R16 (22.08.79) *US4056-982 G01n-01/14*

Liq. sampling appts. has a liq. displacer linking the inlet to a chamber in which the liq. velocity is reduced; a drive for the displacer; a sample duct joining the outlet to a sample tube which defines an opening disposed in the opposite direction of movement of the liq. when entering the chamber; a pressure sensor in the chamber; and a switch linking the sensor to the drive so that a pressure increase causes the drive to switch from a first state to a second. In the first the displacer drives liq. from the inlet into the chamber and the second allows the liq. to pass from the chamber to the inlet.

Sampler is for use with waste water. 19.12.75 as 052233(7pp1376)

SULZ D15 05982Y/04 =GB 1551-140

Biological microogranism activity control - in sewage treatment by computer fed with oxygen concn. temp. pH and turbidity readings

SULZER BROS LTD 14.07.75-CH-009151
*(22.08.79) *DT2532-199 C02c-01/06*

Biological activity in a sewage treatment plant is supervised and monitored during changes in the working conditions by measuring the pH in the activator and reactivator for activated sludge returned from the activator; measuring the O_2 content, turbity and temp. in the activator; determining the B.O.D. in the activator from the above measurements; maintaining the pH values in the two reactors equal by adding acid or alkali; and varying one of the parameters affecting biological activity in response to the variations in BOD in the activator.

Process is simple, inexpensive, relatively insensitive to disturbances and requires little maintenance. 14.7.76 as 029344(10pp1376)

NIYU- ★ D15 61998B/34 ★J5 4086-443

Sulphate removal from diesel engine cooling water - by addn. of alkaline earth metal or lead hydroxide or nitrite

NIPPON YUSEN KK 23.12.77-JA-154349
E36 Q51 (10.07.79) C23f-11/18 F01p-11/06

Method for removing sulphate ion from the cooling water of diesel engines, comprises adding alkaline earth metal or lead nitrite and/or hydroxide to the cooling water contg. a nitrite series rust inhibitor. Appts. for carrying out the method comprises a valve for receiving of certain vol. of the cooling water, a supply tank provided with a constant volume pump for supplying a predetermined volume of soln. of the nitrite or hydroxide, a mixer for mixing the supplied soln. with the cooling water, and a filter for removing ppte resulting from the reaction of the sulphate ion in the cooling water with the added chemical.

Of the alkali earth metal and lead, barium is most pref. For example, $Ba(NO_2)_2 \cdot H_2O$ 3.8 g and $Ba(OH)_2 \cdot 8H_2O$ are dissolved in distilled water 5 ml and 0.5 volpts are used to treat 100 vol. pts. of cooling water. 23.12.77 as 154349 (4pp53)

HITF ★ D15 62015B/34 ★J5 4086-478

Desalination device for sea water or brine - comprises multistage flash evaporator with horizontal chambers sectioned by walls with orifices to give zigzag brine flow

HITACHI SHIPBLD ENGG KK 21.12.77-JA-154860
(10.07.79) B01d-03/06

A device for desalinating sea water or brine, in a multistage flash evaporator comprises flash chambers arranged horizontally, through which the brine is circulated. The temp. difference in the chambers is reduced, improving the efficiency of evapn. Each chamber is sectioned by vertical walls from adjacent chambers. An orifice slit is cut through a lower right or left portion of each side wall of each chamber, to pass the brine, so that the orifice slits at adjacent side walls are located at opposite sides of the walls to their centres. A zigzag flow of brine under circulation through the chambers is achieved. 21.12.77 as 154860 (3pp26)

TOKE ★ D15 62025B/34 ★J5 4086-494

Controlling the feed rate of ozone to a reactor - e.g. for treating waste water contg. organic cpds., by monitoring the ozone concn. in ozone treating tank

TOKYO SHIBAURA ELEC LTD 22.12.77-JA-154760
E36 (10.07.79) C01b-13 C02c-05/04

The concn. of ozone not yet reacting with the liquid in an ozone treating tank is continuously detected and plotted to form a concn. change curve, from which a time required for saturation of the non-reacting ozone concn. is obtained. Based on this time, the ozone feed rate is automatically controlled by switching an ozoniser for supplying the ozone.

The waste water is made harmless without causing pollution while avoiding excessive supply of ozone. 22.12.77 as 154760 (4pp26)

EBAI ★ D15 62134B/34 ★J5 4086-876

Water filtration to reduce pipe corrosion - in which cellulose fibre-active carbon precoat is applied to filter and water is passed through filter

EBARA INFILCO KK 22.12.77-JA-154773
A88 J01 (10.07.79) B01d-37/02

In filtering step through precoated layer, a precoated layer consisting of cellulose powders and active carbon powder is formed on the filtering appts. for condensn. treating purpose and a treating water is permeated through the precoated layer and the filtering appts. The cellulose has a fibre length of $\geqslant 50$ μ and the active carbon has a granular dia. of $\leqslant 100$ mesh. Mixing ratio of the powdery cellulose to the active carbon powders is 1.0/1.0 to 5.0/1.0. The precoated layer has a permeative ability in a velocity range of 5-20 metre/hour during 10-30 minute to the recurrent aq. slurry.

The precoated layer consisting of 0.75 kg/m^2 of the cellulose fibres and 0.25 kg/m^2 of the active carbon powders is fitted on a conventional filtering appts. and thereby, a composite filtering system is prepd. The water contg. 1,680 ppm of iron ion is permeated through the composite filtering system with a recurrent feed velocity of 10 metre/hour for about 8 hours and thereby, the water contg. 2-7 ppm of iron ion is obtd.

A boiler water for fire-power, electric generating plant, contains $\geqslant$ 1,000 ppm of metal colloid and it corrodes piping system so that the boiler water must be treated with the composite filtering system. 22.12.77 as 154773 (3pp15)

EBAI ★ D15 62135B/34 ★J5 4086-877

Filtration process using precoated layer - consisting of cellulose powder and styrene di:vinyl benzene copolymer

EBARA INFILCO KK 22.12.77-JA-154774
A88 J01 (A13) (10.07.79) B01d-37/02

Filtering step is performed through a precoated layer consisting of cellulose powders and copolymer resin powders of styrene- divinyl benzene which is fitted on a conventional filtering appts. and a composite filtering system is prepared and a treatable water is made to permeate through the said composite filtering system.

The cellulose powders pref. has a fibre length of $\geqslant 50$ μ and the powdery copolymer resin pref. has a granular dia. of < 60 mesh. Mixing wt. ratio of the cellulose powers w.r.t. powdery copolymer resin is pref. 1/5 to 3/1. he precoated layer is pref. able to circulate recurrently n aq. slurry with a feed velocity of 5-20 m/hr for 10-30 ins.

Composite filtering system is used for treating the oiler water contg. a metal colloid which gives injurious orrosions to piping of fire-power electric generating lant. 22.12.77 as 154774 (3pp15)

HMC ★ D15 62139B/34 ★ J5 4086-951

emoving oils and suspended solids from waste water - by pressure loatation, aeration and contact oxidn. using a fixed bed

SHIMIZU CONSTRUCTION 23.12.77-JA-155341

(10.07.79) C02c-01/26

The waste water is treated in a first pressure floatation ank; is given high load treatment in an aeration tank and hen treated in a second pressure floatation tank, the majority of the floating sludge being returned to the aeration ank; and the treated water is then treated in a fixed bed ontact oxidn. tank having a specific surface area of $>$ 120 m^2/m^3.

The method, using inorganic coagulant for dephosphorisation, e.g. aluminium salt, iron salt, etc. in the aeration tank, is capable of removing large or small amts. of oils and suspended solids with high efficiency. 23.12.77 as 155341 (7pp117)

HIF ★ D15 62140B/34 ★ J5 4086-955

iological polluted water treatment - by forcing water through multi-tubes which have interior walls coated with microorganisms

SHINMEIWA IND KK 22.12.77-JA-155333

(10.07.79) C02c-01/06

In a biological polluted water treatment method, where organic polluted water is purified by means of microorganisms, polluted water to which is added microorganism supporters of a specific gravity of >1 and a size enough to pass through the multitubes vertically provided as fixed beds between the wall of the treatment tank and the vertical cylinder provided at the central part of the treatment tank in which a stirrer with usually two axial flow blades is provided whereby polluted water being treated is forced downwards, is forcibly circulated through the multitubes whose insides are adhered with microorganisms.

The treatment method is capable treating all types of organic polluted waters with smaller equipment with high efficiency at lower cost because the efficiency of contact between polluted water to be treated and microorganisms is high and also the clogging of tubes with grown microorganisms is almost completely prevented due to the removal of the microorganisms adhered to the tubes by forced turbulent flow. 22.12.77 as 155333 (7pp117)

KURS ★ D15 62141B/34 ★ J5 4086-961

Treatment of biological, agricultural etc. waste water - using activated sludge which is mechanically ground at its contact point with water

KURARAY KK 22.12.77-JA-155975

(10.07.79) C02c-01/06

In the treatment of liquor contg. wastes, e.g. biological waste water, agricultural and fish factories waste water, etc., waste water is treated by an activated sludge method using a treatment system provided with a device to grind activated sludge mechanically at a position where waste water contacts with activated sludge from process other than sedimentation and separation process, having an internal mechanism to destroy activated sludge by letting it pass between a runner rotating at $>$ 500 r/min and a casing $<$ 1.8 mm apart, or to destroy activated sludge by letting sludge flocs collide with casing or flocs at a high speed stream of $>$ 7.0 m/sec., or to destroy activated sludge by letting sludge with a high speed rotating body at a relative speed of 7.0 m/sec or more, or to activated sludge by letting it pass through an aperture or mesh of $<$ 1.8 mm at a speed of $>$ 7.0 m/sec.

The method prevents the occurrence of bulking phenomenon and also the generation of excess sludge. 22.12.77 as 155975 (7pp117)

KURS ★ D15 62142B/34 ★ J5 4086-962

Activate sludge treatment of liquor-contg. waste - with grinder for activated sludge from processes other than sedimentation and sepn. processes, the ground sludge being mixed with metal salt

KURARAY KK 22.12.77-JA-155976

(10.07.79) C02c-01/06

Treatment of liquor contg. waste, e.g. living waste water, agricultural and fish factory waste water, etc. is effected in a system provided with a grinder to grind activated sludge at a position where waste water contacts with activated sludge from a process other than sedimentation and separation processes, having an internal mechanism to destroy activated sludge by letting sludge pass through between a runner rotating at $>$ 500 revs/min and a casing less than 1.8 mm apart, or to destroy activated sludge by letting flocs collide with the casing or flocs at a high speed stream of $>$ 7.0 m/sec, or to destroy sludge by letting sludge collide with a high speed rotating body at a relative speed of $>$ 7.0 m/sec. or to destroy sludge by letting it pass through apertures or mesh of $<$1.8 mm at a speed of $>$ 7 m/sec; the ground activated sludge is mixed with a water-soluble metal salt.

Occurrence of bulking phenomenon is prevented, as is generation of excess sludge. 22.12.77 as 155976 (7pp117)

HITK ★ D15 62143B/34 ★ J5 4086-975

Incinerating cyanogen and cyanide(s) present in waste gas - to decompose and remove them, by contacting gas with flame in incinerator, in presence of oxygen

HITACHI METAL KK 23.12.77-JA-154369

E35 J01 Q73 (E36) (10.07.79) F23g-07/06

A method of incineration for the decompositon and removal of cyanogen or cyanides in a combustion exhaust gas, discharged from partic. incinerators for sludges sepd. from sewage, night soil, and industrial effluents, comprises contacting the gas with a flame inside an incinerator at an inside-incinerator atmos. temp. of $>$ 750 °C under the condition controlled at $T \geqslant 1000 - 110\,S$ (where T is inside-incinerator atmos. temp. T °C and S is inside-incinerator residence time S second) in the presence of approximately 7% oxygen.

The gas incineration method enables the vol. of the secondary combustion furnace to be made smaller, the contact between incoming cyanogen and cyanides-contg. gas and the flame inside the incinerator to become more active and the decomposition of cyanogen and cyanides to be exactly and completely performed. 23.12.77 as 154369 (3pp117)

HITK ★ D15 62144B/34 ★ J5 4086-976

Incinerating cyanogen and cyanide(s) present in waste gas - to decompose and remove them, by contacting gas with flame in incinerator, in presence of oxygen

HITACHI METAL KK 23.12.77-JA-154370

E35 J01 Q73 (E36) (10.07.79) F23g-07/06

A method of incineration for the decomposition and removal of cyanogen and cyanides in a combustion exhaust gas discharged partic. from the incinerator for the sludge separated from sewage, night soil, industrial effluents, etc. comprises contacting the gas with a flame inside an incinerator in the presence of approximately 7% oxygen at $T \geqslant 1000 - 110\,S$ (where T is inside-incinerator atmos. temp. T °C, and S is inside-incinerator residence time S second of cyanogen and cyanides-contg. gas.

The gas incineration method enables the vol. of the secondary combustion furnace interior to be made smaller, the contact between incoming cyanogen and cyanides-contg. gas and flame inside incinerator to become more active, and the exact and complete decomposition of cyanogen and cyanides even if the oxygen concn. of the decomposition gas is limited to about 7%. 23.12.77 as 154370(3pp117)

HITK ★ D15 62145B/34 ★ J5 4086-977

Removing cyanogen (cpds.) from sludge combustion exhaust gas - from sewage, night soil, combustion exhaust gas etc., with control of oxygen concn. in incinerator

HITACHI METAL KK 23.12.77-JA-154371

E35 J01 Q73 (E36) (10.07.79) F23g-07/06

Incineration process for the decomposition and removal of cyanogen and cyanogen cpds. contained in combustion exhaust gas (I) of incinerator for sludge sepd. from sewage, night soil, industrial effluents, etc. comprises introducing (I) into an incinerator and contacting with a high temp. flame while maintaining an O_2 concn. of $> 7\%$.

Exhaust gas at temp (T) > 750°C is discharged under the condition of $T \geqslant 1000 - 110\ S$, where T is the temp. of the atmos. inside the incinerator and S is the residence time of gas in seconds. Decomposition of cyanogen and cyanogen cpds. is complete. 23.12.77 as 154371(3pp117)

KOBM ★ D15 62209B/34 ★J5 4087-674

Treating waste water contg. thiosulphate and sulphite - by contacting with sulphur di:oxide and an aq. alkaline soln., then with acid soln. under aeration

KOBE STEEL KK 24.12.77-JA-156150

E34 (12.07.79) C02c-05/02

A method for treatment of waste water (I) contg. thiosulphate (II) and sulphite (III), comprises (1) contacting (I) and sulphur dioxide gas, which is generated in the acid-decomposition reactor described below, with aq. alkaline soln. at < 70°C and pH > 2, (2) treating the soln. exhausted from step (1) with acid soln. under aeration at > 40°C and pH < 3, for decomposition of (II) and (III) and (3) collecting sulphur and sulphate formed.

The efficiency of decomposition of (II) and (III) is high, even if the concn. of (II) in (I) is low. 24.12.77 as 156150 (4pp42)

EBAR ★ D15 62213B/34 ★J5 4087-679

Automatic control of liquid treating appts. - where the amt. of adsorbent added is calculated according to the colour of the liq. before and after treatment

EBARA MFG KK (FUJI-) 24.12.77-JA-156023

(12.07.79) B01d-15 C02b-01/14 C02c-05/02 C13d-03/12

In a liquid treating system including a succession of powder adsorption towers, where the liquid is decoloured, refined or deodorised as it passes through the packed bed, the degree of colouring of the liquid is detected before it enters each tower, and the amount of powder adsorbent to be added to the tower is automatically calculated in connection with the output signal from the detection means.

The degree of colouring of the liquid is also detected when the liquid leaves each tower, to generate and send a feed-back signal to the previous tower for compensation of the control signal calculated in response to the detection signal produced on the entrance side of the tower. 24.12.77 as 156023 (7pp47)

MITR ★ D15 62215B/34 ★J5 4087-681

Tubular semipermeable membrane prodn. - by spreading acrylonitrile polymer soln. on porous support tape, solidifying in non-solvent and joining using e.g. acrylonitrile polymer

MITSUBISHI RAYON KK 23.12.77-JA-156262

A88 J01 (A14) (12.07.79) B01d-13

Prodn. of tubular semi-permeable membrane(I), comprises (1) spreading acrylonitrile polymer (II) soln. on tape (III) of porous support, or impregnating (II)-soln. into (III), (2) soaking (III) into a solvent, which does not dissolve (II), for solidification of (II) and (3) moulding the tape of semi-permeable membrane into a tube, joining edge of the tape by painting a soln. of (II) or other polymer (IV) similar to (II) along the edge and soaking the formed tube in a solvent, which does not dissolve (II) or (IV).

(II) should contain > 65 wt.% of acrylonitrile. As monomer (II), acryl amide, vinyl acetate, styrene, acrylic acid, vinyl benzene sulphonic acid, etc. are used.

If (I) is produced by spreading (II)-soln. on inner surface of tubular support-surface, it is difficult to produce (I) of uniform thickness. (I) produced by the present method has uniform thickness, and the joining position has also semi-permeability. 23.12.77 as 156262 (3pp42)

YAWA ★ D15 62216B/34 ★J5 4087-682

Electrostatic dewatering of sludge - by carrying sludge on conveyor belt through electrostatic field zone then compressing using upper non-charged belt

NIPPON STEEL CORP 23.12.77-JA-155392

(12.07.79) B01d-13/02

A sludge is continuously poured onto a moving conveyor belt which is connected to a D.C. power source to serve as a cathode plate, and is subjected to an electrostatic field produced between the bottom belt and a top belt connected to the opposite terminal of the D.C. power source to caus the sludge to become charged for dewatering purposes. After leaving the first stage electrostatic field, the sludge is subjected to a non-charged compressive action between the bottom belt and a non-charged top belt for a time period > d/2 sec. (d is the wall thickness of the sludge layer on the belt, mm).

Specifically, the interrupted charging cycle is repeated as the sludge is carried on the bottom belt. 23.12.77 as 155392 (5pp47)

EBAI ★ D15 62301B/34 ★J5 4087-976

Precoat-type filter - for removing very small particles of iron oxide and iron hydroxide from condensation

EBARA INFILCO KK 00.00.77-JA-156038

A88 J01 (12.07.79) B01d-37/02

The filter comprises a first precoated layer produced by mixing powdered celluloseand powdered active carbon, and a second precoated layer formed on the first precoated layer and produced by mixing powdered cellulose and powdered synthetic resin prepared by copolymerisation of styrene and divinylbenzene. The condensation is passed through the first and second precoated layers.

Pref. the first precoated layer is produced by mixing powdery cellulose having a fibre length > 100 µ and active carbon powder having a grain size < 100 mesh in the ratio 1:1 to 5:1. The second precoated layer is produced by mixing powdery cellulose having a fibre length of 50 to 100 µ and synthetic resin powder having a grain size < 50 mesh in the ratio 1:5 to 3:1. 00.00.77 as 156038(4pp86)

TOYM ★ D15 62387B/34 ★J5 4088-650

Ammoniacal nitrogen removal from human and industrial waste - using a fluidised bed of solid granules carrying bacteria, maintained under aerobic conditions

TOYOBO KK 25.11.77-JA-141750

(13.07.79) C02c-01/02

The process comprises forming a fluidised bed of solid granular carrier to which are adhered bacteria, supplying the waste water to a treatment vessel from the bottom so that a jet is formed underneath the stabilised expanded layer in the upper part of the fluidised bed; and maintaining the fluidised bed under aerobic conditions.

The ammoniacal N is oxidised to N_2 in a very short time with lower installation costs and easy maintenance.

In an example, activated sludge-treated water is continuously supplied, as a jet, to a vessel packed with anthracite of mean grain size 0.8 mm at a rate of 1.7 m^3/hr, while forming an expanded layer of anthracite. The N content is lowered from 27 ppm to 1.6 ppm over 6 months continuous operation without blocking the bed or lowering efficiency. 25.11.77 as 141750 (4pp34)

TOYM ★ D15 62388B/34 ★J5 4088-651

Denitrification of waste water - using fluidised bed of granular carrier to which are adhered bacteria

TOYOBO KK 07.12.77-JA-147364

(13.07.79) C02c-01/02

NO_3^- nitrogen and NO_2^- -nitrogen contained in waste water, e.g. 'night soil', sewage and industrial effluents etc. are biologically converted by denitrification into N_2 within a very short period and at low installation cost and in very easy operation maintainance by forming a fluidised bed of solid granules carrier to which are adhered bacteria, continuously supplying the NO_2^- and NO_2^- contg. waste water to a treating vessel from its bottom such that a jet stream region is formed at the under side of a stabilised expanded layer positioned at the upper part of the fluidised bed, and maintaining the waste water under an anaerobic state in the presence of an organic hydrogen source, esp. MeOH etc. The jet stream has higher flowing rate than the water transfer rate in the expanded layer while circulating upward and downward in the entire treating vessel, and is formed in extent of 1/10-1/4 times that of the fluidised bed. The jet stream of the water is most desirably formed by horizontally spraying-out the water to be treated, introduced from optional direction, at the centre line of the vessel, by a spraying nozzle, between the centre and the bottom of the under part of the vessel. 7.12.77 as 147364 (4pp34)

TOYM ★ D15 62389B/34 ★J5 4088-652
Organic waste liquor treatment - in which fluidised bed of solid granules carrying bacteria is formed and liquor and effluent is fed to bottom of denitrification vessel
TOYOBO KK 12.12.77-JA-149565
(13.07.79) C02c-01/02

The treatment of organic waste liquor, e.g. night soil and sewage, etc. comprises contacting the organic waste liquor with a portion of a liquor from a nitrification vessel under anaerobic state to convert by denitrification NO^-_3-N and NO^-_2-N into N_2, introducing it into a nitrification vessel wherein NH^+_4-N in the waste water is converted into NO^-_3-N or NO^-_2-N under an aerobic state, and recycling a portion of an effluent discharged from the nitrification vessel to the denitrification step.

The improvement comprises forming a fluidised bed of solid granules carrier to which are stuck bacteria, and supplying continuously organic waste liquor and effluent discharged from the nitrification vessel to the bottom of the denitrification vessel such that a jet stream is formed at the under side of a stabilised expanded layer positioned at the upper part of the fluidised bed.

The treating time is shortened and simultaneously chemical cost is lowered without any troubles, e.g. clogging, etc. during the operation. 12.12.77 as 149565 (5pp34)

KURK ★ D15 62390B/34 ★J5 4088-653
Removal of paramagnetic material from water - by adding ferromagnetic material then passing water through magnetic separator
KURITA WATER IND KK 24.12.77-JA-155098
E31 J01 P41 (13.07.79) B03c-01 C02c-05

Paramagnetic matter, e.g. alpha-FeO(OH), gamma-FeO(OH) and alpha-Fe_2O_3 etc., which are difficult to remove by means of a conventional magnetic filter, are effectively removed from water by adding ferromagnetic matter, e.g. Fe_3O_4, gamma-Fe_2O_3, CuO Fe_2O_3 etc. in an amt. of 0.5-10 wt. pts. against 1 wt. pt. of the paramagnetic matter, and subsequently passing it through a magnetic separating means, e.g. a column packed with steel or stainless steel globules and fitted with permanent magnet or electromagnetic coil at the outside.

By this procedure, ~ 30-55% of the paramagnetic matter is removed, but it is desirable in practice to carry-out recirculation of the water to be treated in order to decrease the paramagnetic matter as much as possible. This process is further applicable for effectively removing a very small amt. of ferromagnetic and paramagnetic matter from water. 24.12.77 as 155098 (5pp34)

TAKE/ ★ D15 62391B/34 ★J5 4088-654
Treatment of sludge contg. aluminium hydroxide(s) etc. - by adding acid, then adding sodium silicate and neutralising to effect concn. and improve dewatering property
TAKEDA F 26.12.77-JA-155523
(13.07.79) C02c-03

Sludge, e.g. from water treatment, contg. Al hydroxides etc. bulky and difficult to be dewatered, is effectively concd. and improved in dewaterability by (i) adding a suitable amt. of an acid, e.g. H_2SO_4 etc. to dissolve a pref. amt. of coagulated flocs so as to regenerate a coagulant, e.g. Al sulphate etc. and (ii) adding Na silicate followed by neutralisation to form newly activated SiO_2 on the outer circumference of sludge granules, to which the regenerated coagulant is bound so as to form an agglomerate exhibiting excellent dewaterability.

The amt. of H_2SO_4 added is ~ 1/10 vol. times as that in a conventional process i.e. the pH is maintained nearby 3.5, thereby the procedure becomes very easy without generation of mal odour or foaming. Further it becomes unnecessary to use $Ca(OH)_2$ in this sludge treatment, thereby effluent and filter cake are maintained in neutral state. 26.12.77 as 155523 (3pp34)

SUMM ★ D15 62392B/34 ★J5 4088-655
Treating plating effluent contg. metal cyan cpds. - by first treating with weakly acidic ion exchange resin, adjusting pH to 3.5-8 and treating with activated charcoal
SUMITOMO METAL MINI KK 24.12.77-JA-155957
A91 E36 M11 (13.07.79) C02c-05

Metal cyan cpds,contg. plating waste water is treated to first remove metal components, and then chlorine and sulphate ions and cyan component etc. to be reused as the washing water in plating treatment.

Process comprises (a) treating with weakly acidic ion exchange resin to lower its pH value from about 10 to 4-8 to prevent deposition of $Ag(CN)^-_2$ or $Cu(CN)^-_2$ on the exchange resin in the form of AgCN or CuCN respectively; (b) adjusting its pH to 3.5-8 opt. with H_2SO_4; (c) treating with activated charcoal to remove by adsorption the metal components, e.g. Ag, Cu and Zn etc.; and (d) subsequently treating in succession the aq. soln. thus obtd. with (i) strongly acidic cation exchange resin, (ii) weakly acidic anion exchange resin and (iii) strongly basic anion exchange resin.

The regeneration of the strongly acidic cation exchange resin with a dil. HCl soln. is facilitated by the pretreatment. 24.12.77 as 155957 (6pp34)

TOMO/ ★ D15 62434B/34 ★J5 4088-872
Organic waste fermentation to give fertiliser or feed - in double walled container supplied with hot air to provide fast high temp. process
TOMOYASHU H 26.12.77-JA-159128
C03 (D13) (14.07.79) A23k-01/10 B01j-01 C05f-09 C12b-01

A square or round treating container comprises an outer cylinder and in inner cylinder to define a double construction, and a cover having an air exhaust pipe. Organic wastes enter the container and air which is hotter than the chamber temp. is introduced from an upper cover through the outer cylinder or the bottom made of nets or porous plates into the double cylinder to contact it with the organic wastes (A) so as to increase aerobic fermentation. Fermentation continues producing temps.$>$ 70°C.

Organic wastes are converted to manures or feeds. The organic wastes such as food wastes, vegetable wastes or like may be easily and uniformly fermented for a short time. 26.12.77 as 159128 (2pp35)

TOYM ★ D15 62442B/34 ★J5 4088-881
Mfg. cellulose tri:acetate hollow fibre ultrafiltration membrane - from soln. contg. the tri:acetate, N-methyl-2 pyrrolidone and polyester, by passing through spinneret into gas atmos. and coagulating
TOYOBO KK 30.11.77-JA-144350
A11 F01 J01 (A88) (14.07.79) B01d-13

Process comprises (a) homogeneously dissolving cellulose triacetate, N-methyl-2-pyrrolidone and polyester of formula $R_1O(C_2H_4O)_nR_2$ (I) (where R_1 and R_2 are each H, 1-6C hydrocarbyl, $-C_2H_4R'$ or $-COR'_1$; R' is -CN, $-COOR''_2$ or $-CH_2NH_2$, R''_1 and R''_2 are each H or hydrocarbyl and n is an integer 1-30) in such a way that content of cellulose triacetate is $>$ 10 wt.% and $<$ 30 wt.% and the ratio of N-methyl-2-pyrrolidone and polyester is 85 : 15 to 50 : 50 by wt.%; (b) passing the spinning soln. at 60-150°C through a spinneret into a gas atmos. and (c) immersing it, after passing through air for 0.01-0.4 sec. in an aq. coagulating bath.

By controlling the magnitude of n in (I), the mol. wt. of separable solute may be controlled. 30.11.77 as 144350 (4pp96)

TOYM ★ D15 62444B/34 ★J5 4088-883
Hollow fibre semipermeable membrane mfr. - by extruding soln. of cellulose tri:acetate in N methyl-2-pyrrolidone, passing in air and immersing in coagulating bath
TOYOBO KK 16.11.77-JA-138314
A11 F01 J01 (A88) (14.07.79) B01d-13

Process comprises extruding soln. dissolved cellulose triacetate in N-methyl-2-pyrrolidone in such a way that cellulose triacetate content is 30-40 wt.% into gas atmos. at 90-180°C through spinneret, and then immersing, after passed in air for 0.02-0.4 sec, into aq. coagulating bath.

The process exhibits good spinning properties and the produced semipermeable membrane is excellent in water permeability and cutoff capacity of solute. Used e.g. for desalting water contg. N or Cl. 16.11.77 as 138314 (5pp96)

MIZU- ★ D15 62560B/34 ★J7 9020-957
Treating waste alkaline water used for degreasing metals - comprises adding mixt. of urea and bentonite, acidifying with hydrochloric or sulphuric acid and standing
MIZUHO KOGYO KK 01.05.74-JA-048308
E16 M12 (26.07.79) C02c-05/02

Method comprises adding a 1/10 to 10/10 by wt. mixt. of urea and bentonite to waste water contg. alkali, nitrous acid salt and oil; adding HCl or H_2SO_4 to acidify the water to pH 1 to 4; and allowing the water to stand for ≥ 30 min. 1.5.74 as 048308 C02c-5/02 (26.7.79) MIZUHO KOGYO KK (3pp83)(J50141853)

EBAI ★ D15 62570B/34 ★J7 9021-012
Rapid purificn. appts. for liquids e.g. water - where recirculated filtrate has inorganic coagulant added to it, which initiates filtration
EBARA INFILCO KK 04.10.74-JA-114513
J01 (27.07.79) B01d-23 B01d-37/02

In a rapid filtration appts. for liq. purificn., a filtrate is recirculated after back-washing, to the appts. for filtration. The recirculation is continuted for a pre-determined period while adding an inorganic coagulant is to clarify the recirculating water. Inorganic coagulant is added when the recirculating procedure ceases, and filtration is initiated, stopping the addn. of the coagulant when clarification of filtrate is observed. The filtration is continued so that very clear water is economically obtd. over a long period. 4.10.74 as 114513 B01d-37/02;23/00 (27.7.79) EBARA INFILCO KK (3pp34)(J51040658)

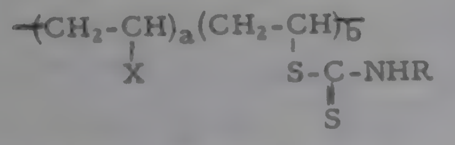
SUMO D15 38489X/21 =J7 9021-197
Treating oil contg. industrial wastes - by ultrafiltration and-or reverse osmosis in closed circuit with incinerator
SUMITOMO CHEMICAL KK 08.11.74-JA-129276
*H05 J01 Q73 (28.07.79) *DT2549-882 C02c-05/02 F23g-07/04*

Effluents contg. combustible org. impurities (oil) can be treated by thickening through ultrafiltration and/or reverse osmosis, followed by burning the thickened fluid, The filtrate from ultrafiltration or diluted soln. from reverse osmosis is used in a closed circuit to cool or wash the flue gases from the combustion, and to decompose the org. components contained in the filtrate.

This system has a very low power consumption, just for recirculation and thickening. The thickened residue requires no auxiliary fuel for combustion. The furnace can be kept small because excess water has been removed, and few waste gases are produced. The absence of active carbon filters saves cost and the process is a closed circuit, producing no pollution of the drainage system. 8.11.74 as 129276 C02c-5/02, F23g-7/04 (28.7.79) SUMITOMO CHEMICAL KK (5pp)(J51055155)

AGEN D15 82082X/44 =J7 9021-199
Metal collecting agent for copper, nickel, etc. - comprising a copolymer contg. an N-alkyl-dithio carbamate gp
AGENCY OF IND SCI TECH 12.03.75-JA-030555
*A91 J01 M25 (A14) (28.07.79) *J51104-487 B01d-15/04 C02c-05/08 C09k-03 C22b-03*

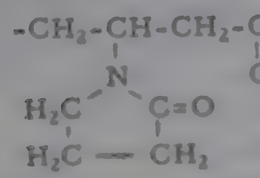
A metallic ion collecting agent is prepd. by introducing a hydrophilic N-alkyldithiocarbamate gp. into a copolymer such as vinyl chloride-acrylamide copolymer. A metal collecting agent consists of copolymer having a component of formula (I) (where in X is pyrrolidone (esp. vinyl pyrrolidone) or acid amide gp., R is lower alkyl pref. (m)ethyl, a is 10-40 and b is 5-25 mole%).



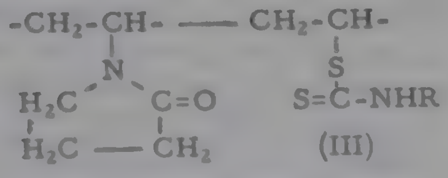
$$-\!\left(CH_2-\underset{X}{CH}\right)_a\left(CH_2-\underset{S-\underset{S}{C}-NHR}{CH}\right)_b\!-$$

(I)

In a prepn. of such a material, (III), vinyl chloride-N-vinylpyrrolidone copolymer (II) is treated with sodium N-alkyldithiocarbamate NaS-CSNHR.



(II)



(III)

The agent is excellent for collecting ions of Cu, Ni, etc. 12.3.75 as 030555 C09k-3/00;B01d-15/04; C02c-5/08; C22b-3/00 (28.7.79) AGENCY OF IND SCI TECH (2pp) (J51104487)

MITU D15 64283U/43 =J7 9021-312
Coagulating agents and viscosity modifiers - prepd by dispersing aldehyde/alcohol condensate, surfactant and solvent
MITSUBISHI CHEM IND KK (ECC - ECCH-) 08.04.72-JA-035390
*A21 G04 (30.07.79) *DT2317-158 B01d-21/* C09k-03*

Filament-forming liquid compsn. useful as coagulating and flocculating agents for domestic and ind. effluents, including emulsion waste waters contg. oils, food ind. and dye-bath effluents, also as viscosity-raising agents for dyes and surface treatment materials, consists of a uniform aq. dispersion prepd. by mixing (i) a condensation prod. of an aromatic aldehyde and a polyhydric alcohol having ≥ 4 OH gps. in which aldehyde: alcohol mol. ratio is 0.5-3 (1-2.5), (ii) a surface active agent, and (iii) a polar org. solvent, in water. Wt ratio condensate: surfactant: solvent may be 5-50: 15-50: 15:50, and total wt. of condensate and surfactant in compsn. is 0.01-10 (1-5) wt.%. 8.4.72 as 035390 B01d-21/01.C09k-3/00 (30.7.79) E C CHEMICAL INDS CO LTD, MITSUBISHI CHEMICAL INDS LTD. (5pp)(J48102782)

WASU ★ D15 62684B/34 ★SU -632-379
Effluent cleaning filter prodn. - by suspending granular blast furnace slag and introducing suspension of expanded vermiculite to improve filtration
WATER SUPPLY HYDROGEOL 05.03.77-SU-458280
J01 (15.11.78) B01d-39/02 C02c-05/02

Method for making an absorption layer of a granular mateeral in a filter for the thorough cleaning of effluents involves introducing a suspension of finely-dispersed absorbent into the layer of granular material. The absorbent is uniformly distributed over the height of the granular layer, in order to increase the filtering capabilities, by introducing the absorbent while the granular layer is in suspension. This is done by feeding the effluent in from below.
Bogdanov L.V., Lapina M.V., Mitin B.A., Bul. 42/15.11.78 5.3.77 as 458280 (2pp29)

BOGD/ ★ D15 62792B/34 ★SU -632-648
Sorbent for both organic and mineral substances in aq. wastes - is obtd. by treating lignin with sulphur tri:oxide and heating prod.
BOGDANOVICH N I 19.11.75-SU-190284
(25.11.78) B01j-01/22 C01b-31/16

Sorbent material is used for removal of various waste waters and solns. from both organic and mineral substances. It is prepd. by treating lignin with SO_3,pref. in amt. 45-50 wt.% of lignin, and subsequently thermally treating prod. at 100-300 °C, pref. 200-240 °C. The sorbent obtd. contains a strong-acid cation-exchange gp.
Bogdanovich N.I., Gelfand E.D., Parfenteva N.A., Bul. 42/15.11.78 19.11.75 as 190284 (2pp1347)

STAV= ★ D15 62799B/34 ★SU -632-655
Thermal softening appts. for water contg. calcium sulphate - has vertical column, where water is mixed with steam, and calcium sulphate crystallises out
STAVROPOL POLY 18.05.77-SU-484827
(25.11.78) C02b-03/04

Installation for thermally softening waste water and other mineralised waters, contg. a considerable quantity of calcium and sulphate ions, includes a vertical cylindrical body with a spherical bottom and cover, nozzle to introduce the water fixed into the cover along the axis of the body, manifold with pipes to introduce steam, and other pipes to let the water and formed residues out.

The calcium sulphate is removed more completely and productivity is increased, by installing along the body axis a cylindrical shell with a conical top and bottom and a truncated deflecting cone fastened by its smaller dia. at the lower end of the shell. The upper end is connected to a pipe which withdraws the water. The process is speeded up on account of the soln. being circulated by fitting air-lift pipes and connecting them to the pipes which introduce the steam. A conical valve is installed at the lower end of the shell so that it can be moved up and down.
Simonov P.P., Pishchenko V.V., Bykov A.I., Bul. 42/15.11.78 18.5.77 as 484827 (3pp29)

ARE= ★ D15 62800B/34 ★SU -632-656
emoving tri:butyl phosphate and trilon B from waste water - in resence of ferric salts by passage through semipermeable polymer embrane of specified pore size at specified pH
RARE METAL IND RES (SYNT=) 09.04.76-SU-347545
A88 E11 J01 (25.11.78) B01d-13 C02c-05

hosphorus cpds. such as tributyl phosphate and trilon B an be removed from aq. waste contg. Fe salts by passage hrough a semipermeable membrane.

The efficiency can be increased if the water is acidified o a pH of 1.5-3.0 then passed through a double or triple orous polymer with a mean pore radius of 0.01 um. under lightly raised pressure, when the dynamic semipermeable membrane is formed as a result of the pH used and the resence of the Fe salts.
aks G.L., Kozhemyakin V.A., Toropatskaya N.P. et al ul. 42/15.11.78 9.4.76 as 347545 (2pp815)

HMI= ★ D15 62802B/34 ★SU -632-658
ecycle or waste water, e.g. from concn. works purificn. - by lectro-flotation in three stages at decreasing current density to emove suspended material
CHEM MINER RAW MATE 06.11.74-SU-073411
J03 (25.11.78) C02c-05/12

he electroflotation method of removing suspended impurities from aq. solns. can be speeded up and the efficiency ncreased, and the energy required can be reduced, if it s carried out in 3 stages, using successively current ensities of 1000 -1200, 500-600 and 100-200 amp./m^2, ver a total period of action of 20-60% of the total reaction time the respective times being 20,20 and 60% in the 3 stages.
Kuznetsov V.N., Meshcheryakov N.F., and Makhmutov Sh.A., Bul. 42/15.11.78 6.11.74 as 073411 (2pp815)

SERA= ★ D15 62803B/34 ★SU -632-659
Water purification by electro-coagulation - using cylindrical cell with tubular electrodes, each with axial rod electrode, evenly spaced on circle around central feeding tube
SERA SULPHUR PROD 03.02.76-SU-319709
P41 (25.11.78) B03c-05/02 C02c-05/12

Stabilisation of electrocoagulation process for decolourising and softening potable and industrial water by removal of colloidal particles, as well as for purificn. of effluents or for industrial prodn. processes which require coagulation and clarificn. of liquids. is improved by increasing the working surface of the electrodes in the electrocoagulation cell.

Thus there is provided a central inlet tube with feeding outlet at the top of the cell surrounded by a number of tubular electrodes evenly spaced on a circle in the annular space between the inlet tube and the wall of the vertical cylindrical cell.

The rod electrode is mounted in the centre of every tubular electrode which at its bottom contains openings foi r the flow of water being processed. The rod electrodes, as well as the central inlet tube and the cylinder wall ofthe cell are connected to the negative terminals of the power source, while the tubular electrodes are connected to the positive terminal.
Akselrud G.A., Gorshkov V.P., Tymchak I.O., et al. Bul. 42/15.11.78 3.2.76 as 319709 (3pp135)

KECH= ★ D15 62846B/34 ★SU -632-706
Ion exchange resins with high capacity for mercury and silver ions - prepd. from DMF-swollen acrylonitrile polymer, sulphur and sodium sulphide soln., using cobalt sulphate catalyst, used for water purificn.
KEMER CHEM IND RES 26.07.77-SU-514063
A91 J01 M25 (25.11.78) B01j-01/04 C08f-08/34 C08f-228/02

A copolymer (I) of acrylonitrile (II) and divinylbenzene, contg. 92% (II) units, is converted to an ion-exchange resin (III) in 4 stages as follows: (1) (53g) is swollen by heating for 2 hrs. at 128-132°C with DMF (200 ml); (2) the mixt. is treated at 100°C with S (32g), 40% Na_2S soln. (200 ml) and $CoSO_4$ as catalyst (0.1g); (3) the mixt. is stirred under reflux for 16 hrs. at 138-142°C; (4) the prod. is cooled and washed with 5% HCl and with distilled water until neutral.

(III) is obtd. with specific vol. 2.4 mg/ml and S content 15.1%.
Ilichev S.N., Yakukhina O.M., Morgun T.M., Bul. 42/15.11.78 26.7.77 as 514063 (2pp1360)

NALC ★ D15 62968B/34 ★US RE30-066
Selective removal of chromate ions from water - by contacting with an acidified weakly basic anion exchange resin
NALCO CHEMICAL CO 27.05.77-US-801075 (29.02.68-US-709182)
A91 E31 (07.08.79) C02b-01/62

Chromate ions are selectively removed from water contg. ⩾1000 ppm. total dissolved solids by adjusting the pH of the water to 3-5, acidifying a weakly basic anion exchange resin in the macroporous form and contacting the water with the acidified resin.

Method is useful for treating industrial waters, e.g. in circulating water systems for cooling towers, treated with corrosion inhibiting inorganic chromates. The resin used is not subject to organic. fouling and has a high regeneration efficiency. 27.5.77 as 801075 Reissue of 3414510 (3pp)

MANN- ★ D15 62980B/34 ★US 4163-392
Drawing fluid sample through conduit - with initial purging step to reduce cross-contamination
MANNING ENVIRONMENT 02.10.78-US-947742
J04 R16 (07.08.79) G01n-01/14

A fluid sampler withdraws fluid via a flexible hose connected to a sample container. The pressure in the hose can be reduced to draw liq. into the hose and container or alternatively the pressure can be raised to expel fluid from the hose.

Initially liq. is drawn up the hose until a liq. sensor at the upper end of the hose is activated. The pressure in the hose is then reversed to expel the liq. A second cycle takes place in which the liq. is drawn up the hose but this time is allowed to enter the sample container. Optionally the hose can also be flushed by a fresh water cycle.

The appts. periodically takes samples at intervals of typically 6 hrs. The initial flushing of the hose by drawing liq. into it and then expelling it removes traces of the previous sample and dislodges algae which may have grown in the hose since the taking of the previous sample. This reduces cross-contamination between successive samples. 2.10.78 as 947742 (5pp295)

PHIL- ★ D15 63003B/34 ★US 4163-631
Surface aerator impeller for sewage streams - has flat disc with curved impeller blades secured to its underside
PHILADELPHIA GEAR C 17.08.77-US-825486
J02 (07.08.79) B01f-03/04

A flat horizontal disc is secured to the lower end of a vertical rotatable drive shaft. Uniformly-shaped curved vertical impeller blades are secured by their upper edges of the underside of the disc at uniform angular spacings about the centre axis of the disc.

Each blade has a curved major area surface extending, as viewed vertically, in a retreating direction w.r.t. the direction of rotation of the disc and is defined by an outer vertical edge, a longer, inner vertical edge located off and forwardly of the centre axis of the disc and an inclined bottom edge which extends upwardly towards the outer vertical edge.

The impeller minimises misting while achieving a high level of O_2 transfer efficiency. It is effective at both high and low speeds and at different liq. levels. 17.8.77 as 825486 (10pp67)

OILD- D15 63110Y/36 =US 4163-674
Gypsum granules for absorption on liquids - used to absorb oils, fats, water e.g. animal excrement, as supports for chemicals e.g. agriculture and as soil conditioning agents
OIL-DRI CORP 04.05.76-US-683090 (01.04.77-US-783792)
*C03 (D22) (07.08.79) *BE-854-274 C09k-03/22*

Synthetic, liq.-absorbent material comprises gypsum granules mfd. by crushing a combination of set and hardened materials derived from a mixt. contg. gypsum plaster and water in a water:plaster wt. ratio of 15-85-50:50 to provide hardened granules having a bulk density of 26.4-51.8 lbs/ft^3, water absorption of 19-88% and oil absorption of 34-74%.

The material may include as an additive 1-20 wt. % of the plaster of a lightweight naturally absorptive material that affects the bulk density of the granules, esp. clay dust or pulped or finely divided used newspaper.

The material has absorbent properties equivalent to those of absorbent clay granules. It is suitable for use as an oil and grease absorbent on floors, as an absorbent in toilet boxes for household pets, as a carrier for insecticidal, herbicidal or fungicidal chemicals, and as a ground cover or a conditioner. Granule size and characteristics of the prod. can be controlled according to intended use. 1.4.77 as 783792 (7pp927)

BRTO D15 54108V/30 =US 4163-712

Sewage, river, and fish breeding water purificn - by re-introduction of oxygen enriched gas satd. pressurised flow originating from water to be purified

BOC LTD 26.06.73-GB-030236 (08.01.73-GB-001027)

*(07.08.79) *DT2400-653 C02c-01/06*

System contg. liqs. such as aq. liquor is treated with a sparingly soluble gas by introducing the gas into a pressurised stream of the liq., at a sufficient rate to dissolve some of the gas in the stream, and additionally to form finely dispersed bubbles of undissolved gas which are carried within the stream.

The velocity of the stream is sufficiently high to ensure that the bubbles do not combine to form a discrete vapour phase. The stream is introduced into a vol. of the liq. under turbulent conditions, so that the bubbles of undissolved gas are broken into even finer bubbles which either dissolve or are consumed in the liq. vol.

System is esp. used in the treatment of aq. waste materials, esp. sewage, ribers, streams or other bodies of naturally flowing sources of water, or water used in fish farming 12.6.75 as 586390 (+1.3.75-GB-010082) (+3.1.74-US-430260) (8pp931)

AGEN D15 39600A/22 =US 4163-715

Purification of waste water - to remove colouring material and COD components

AGENCY OF IND SCI TECH (SUMH) 05.10.76-JA-119614

*(07.08.79) *J53045-054 +C02b-01/14*

Waste water is treated by blending it with an inorganic adsorbent powder to adsorb chromaticity and COD components, and subjecting the mixt. of water and adsorbent thus obtd. to a sedimentation treatment to separate the adsorbent powder with chromaticity from the COD components as a slurry layer.

The water in the upper layer thus formed is then discharged, and the adsorbent slurry of the lower layer is taken out and a portion returned to the initial adsorption step. The remainder of the adsorbent slurry is subjected to a dehydration treatment, after which it is calcined in a gas contg. <10% of O_2 for 10-30 mins., and then in a gas contg. 10-25% of O_2 for 10-30 mins. The regenerated adsorbent obtd. is recycled to the initial adsorption step.

This method removes the colour and COD components from waste-water, without expensive burning up processes 3.10.77 as 838973 (4pp931)

FELT- D15 24133W/14 =US 4163-716

Contaminated water purif - by treating with ferrous or ferric ions and removing colourants with hydroxides

FELTEX LTD 22.10.73-ZA-008172

*F06 (07.08.79) *ZA7308-172 +C02b-01/16*

Acid dyehouse effluent which is contaminated with coloured substances and heavy metal ions from a dyeing process is purified. Process comprises removing the fibres, and then subjecting the effluent to ion exchange to remove surfactants. The treated effluent is then subjected to electrolysis with an iron cathode, and the ferrous and ferric hydroxide thus formed removed together with the coloured substances and the heavy metal, from the effluent liq. Pref. the effluent has a pH <6.5.

The liq. remaining after the treatment is sufficiently low in heavy metal ion concn. such that the purified liq. can be recycled to the dyehouse. 4.10.77 as 839352 (+21.10.74, 6.2.76-US-516496, 655849) (3pp931)

ESSO D15 47439B/26 =US 4163-71

Regeneration of anion and cation exchanger resins - in mixed be demineraliser for water purification (NL 19.6.79)

EXXON RES & ENG CO 15.12.77-US-860690

*J01 (07.08.79) *DT2854-249 C02b-01/70*

Silica can be removed effectively from a mixed bed demineraliser contg. an anion exchange resin and a cation exchange resin during regeneration, by passing 30-80 vol. % of an anion regenerant soln. through only the anion resin; pa-sing the remaining portion of the anion regenerant soln. through both the anion- and cation resins; and passing a stream of cation regenerant soln. through the cation resin

Anion and cation exchange resins are regenerated such that the amt. of silica on the resins, is reduced, so that when silica contg. water is passed through the demineraliser during normal operations, the concn. of silica in the treated water as SiO_2 is <0.1 (<0.005)mg.l^{-1}.

The level of silica in treated waters is reduced ultra-flow levels, and may be further used in power generating plants. 15.12.77 as 860690 (6pp931)

PECP- D15 65642A/37 =US 4163-720

Biological effluent treatment - in anaerobic treatment container combined with built-in aerobic tank

PEC PROCESS ENG CO 04.03.77-CH-002715

*(07.08.79) *DT2808-790 C02c-01/26*

Waste water contg.proteins and carbohydrates is purified in appts. which has a tank from which a sludge produced by aerobic degradation is removed. without allowing O_2 to contact the waste. A second tank inside the first has an aerator to dissolve O_2 in the waste water, the second tank also having an outlet for sludge produced by aerobic degradation.

A conduit connects the tanks together to supply waste water to a posn. above the second tank outlet. There is a device to recycle some of the sludge; and a baffle to guide the sludge in the second tank towards the outlet. There is also device to withdraw purified water from below the baffle in the second tank. 6.3.78 as 884632 (7pp1376)

SUMO D15 56074Y/32 =US 4163-725

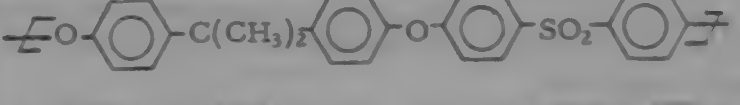
Semi-permeable polysulphone membranes for ultrafiltration - with surface crosslinked by plasma treatment

SUMITOMO CHEMICAL KK 02.02.76-JA-010485

*A88 J01 +P42 (A26 D13) (07.08.79) *DT2703-587 C08j-03/24 C08j-07/10*

Prodn. of semipermeable membranes comprises exposing porous shaped articles of polysulphone having a form of film, sheet, tube or hollow fibre or being composite with another porous support and having pores of 100-1000A on i its surface, to plasma generated by glow discharge of H_2, He, Ar, N, O, CO, CO_2, NH_2 or H_2O under a pressure of 0.01-10 Torr to form a dense, crosslinked surface layer of $\not> 1$ thickness.

Pref. the sulphone has the following recurring units or their mixt:



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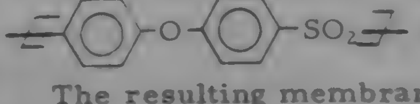
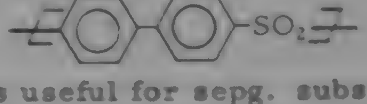


or



The resulting membrane is useful for sepg. substances by reverse osmosis or ultrafiltration. 24.1.77 as 761904 (5pp393)

BUCL D15 44129A/25 =US 4163-733

Compsn. used to prevent corrosion and incrustation in aq. systems - contg. di:methylamino methylene bis:phosphonic acid and water-soluble polymer such as polyacrylic or polymethacrylic acid

BUCKMAN LABS INC 25.10.77-US-845011

*A97 E11 M14 (07.08.79) *BE-863-904 C02b-05/06*

Corrosion and scale-inhibiting compsn. for use in cooling water systems consists of (by wt.) of 10-90% dimethy inoethylene bis-(phosphonic acid) or its water sol. salt, a water-sol. polymer having a linear hydrocarbon structure with side chain carboxylic gps. and of formula (I): $-\!\left[CHR-CR_1(COOH) \right]\!-_n$ Z(where R is H or COOH and R is H or CH_3) in amt. 10-90% and ≥ 1 of (A) water, (B) 0-

% aq. soln. of phosphorus acid or its alkali metal salt and (C) 1.5-13.5% aq. soln. of a water-sol. Zn salt.

Pref. water-sol. polymers are poly(acrylic acid), poly-(methacrylic acid), hydrolysed poly(maleic anhydride), hydrolysed polyacrylonitrile and hydrolysed polyacrylamide

Compsn. is stable and acts synergistically. 25.10.77 as 845011 (9pp393)

INDF ★ D15 63133B/34 ★ZA 7801-723
Phosphate removal from organic waste water - using anaerobic sludge digester effluent in the presence of a biomass
INDIA COUNC OF SCI IND 23.03.78-ZA-001723
(02.04.79) C02c-01

DELK- ★ D15 B/34 ★ZA 7803-061
Flocculating appts. and method - uses two vertical spaced feeds for feeding material into container
DELKOR TECH PTY LTD 29.05.78-ZA-003061
J01 Q32 (13.06.79) B01j B65d

Flocculating appts. which includes a container has one feed for feeding material to be flocculated into the container at an intermediate level. A second feed, located above the first feed, also feeds flocculant into the container. 29.5.78 as 003061 (15pp)

PATE- ★ D15 B/34 ★ZA 7803-833
Aerator - comprises aerotor rotor driven by linear electric motor
PATERSON CANDY INT 13.07.77-GB-029386
(05.06.79) C02d

The aerator comprises an aerator rotor drivable by a linear electric motor. 4.7.78 as 003833 (8pp)

See Also

D13 J5 4087786
D13 J5 4087787
D13 US 4163795
D16 GB 1551019
D16 GB 1551020
D22 US 4163796
D22 US 4163797
D22 US 4163798

D16: FERMENTATION INDUSTRY

STAH/ ★ D16 B/34 ★BR 7800-044
Thermophilic, aerobic fermentation of organic residual materials
STAHLSCHMIDT V 04.01.78-BR-000044
(07.08.79) C05f-09/02

LOBL/ ★ D16 B/34 ★CS 7502-514
Antibiotic prodn. waste processing
LOBL F 11.04.75-CS-002514
B05 (31.05.79) C05f-09/04

POMM/ ★ D16 B/34 ★CS 7700-114
Proteins fractionation and purification
POMMERING K 07.01.77-CS-000114
(31.05.79) C07g-07

WELW/ ★ D16 B/34 ★CS 7703-327
Strain of Acremonium chrysogenum CM F-644 microorganism
WELWARD L 20.05.77-CS-003327
(31.05.79) C12k-01/02

SMEK/ ★ D16 B/34 ★CS 7707-397
L-Lysine prepn. by fermentation
SMEKAL F 11.11.77-CS-007397
B05 E16 (31.05.79) C12d-13/06

SMEK/ ★ D16 B/34 ★CS 7707-544
L-Lysine prepn. by fermentation
SMEKAL F 16.11.77-CS-007544
B05 E16 (31.05.79) C12d-13/06

VYSL/ ★ D16 B/34 ★CS 7806-830
Whisky maturing barrels heat treatment
VYSLOUZIL J 24.10.78-CS-006830
Q32 (31.05.79) B65d-09/04

INMR D16 37549F/00 =DS 1617-548
Prodn of foot and mouth disease vaccine
INST MERIEUX (IFFA) 22.06.67-FR-111546
*B04 C03 (16.08.79) *GB1152-934 +A61k-39/26*

Foot-and-mouth vaccine is produced by cultivating inactivated virus on borine tongue epithelia in a liq. culture medium. The process comprises (a) effecting the first culturing for 15-20 hrs. at 37°C and separating the liq. culture medium, (b) adding fresh culture medium warmed to 37°C to the tongue epithelia and effecting a second culturing for 3-12 hrs., and (c) isolating the virus from the combined culture media, inactivating and making up as a vaccine.

The epithelia can be used repeatedly (i.e. for 3 or 4 culturings), with a higher yield obtd. in the second culturing compared with the first. 17.11.67 as 617548 (4pp913)

NIOC D16 06767S/04 =DS 1947-038
Monohydroxycarboxylic acids preparation - process
NIPPON OIL KK 09.07.69-JA-053968
*E17 (16.08.79) *DT1947-038 C12d-01/02*

Lactic acid is obtd. by aerobically culturing Arthrobacter oxydans PG 21-1 (No. 359, FRIAIST), Alcaligenes faecalis (No 360, FRIAIST) or Fusarium solani (No 361, FRIAIST) in a nutrient medium contg. 1,2-propanediol as carbon source at 25-37°C and pH 7-9.

The medium pref. contains 1-10% propanediol and urea, sodium nitrate, potassium nitrate, ammonia, ammonium sulphate and/or ammonium nitrate as N source. Lactic acid is recovered in high yield. 12.9.69 as 947038 (3pp068)

STEI D16 24410T/16 =DS 2048-602
Malting tank aerator - for brewers malt using twin vertical worms in cylindrical tank
STEINECKER A MASCH GMBH (LEN /) 02.10.70-DT-048602
*(16.08.79) *DT2048-602 C12c-01/08*

A vessel for disaggregating the mix for the production of brewing malt is equipped with two scrolls mounted on vertical axes parallel to the vertical axis of the cylindrical vessel, each scroll being on diametrically opposite sides of the main axis and at a different radial distance from it.

To simplify the drive mechanism and reduce the drive force required, the two scrolls are mounted on a common beam which rotates about the vertical axis of the vessel. The drive motor for the scrolls and the support beam is mounted on the beam and the drive to the scrolls and the beam is transmitted via epicyclic gears. 2.10.70 as 048602 (5pp1370)

MERI D16 33864S/20 =DS 2054-310
(-)-cis-1,2-epoxy propyl-phosophonic acid - antibiotic prepn
MERCK & CO INC 05.11.69-US-874387
*B03 C01 (16.08.79) *DT2054-310 C07f-09/38*

(-)-(Cis-1,2-epoxypropyl)-phosphonic acid (I) and its salts are prepd. by aerobic culturing of a microorganism in an aq. nutrient. Culturing is effected in the presence of cis-propenyl phosphonic acid or salt, using Penicillium purpurescens NRRL-720, P. crustosum NRRL-949, P. chatesii NRRL-778, P. soppii NRRL-912, P. funiculosum NRRL-1132 and NRRL-1768, P. puberulum NRRL-988, P. spinulosum NRRL-727 and NRRL-728, P. frequentans NRRL-1189 and NRRL-763 and P. palitans NRRL-966.

Method provides an improved process for obtaining (I) in good yield from the propenyl phosphonic acid (salt) without simultaneous formation of (+)-isomer. (I) are antibiotics active against Gram positive and negative bacteria. 4.11.70 as 054310 (4pp913)

KYOW D16 75799V/44 =DS 2418-349

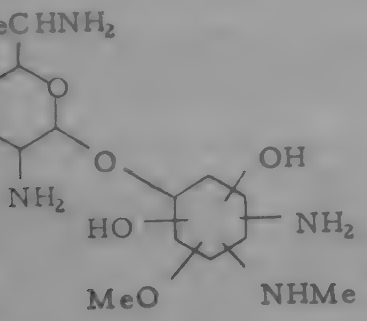
Fortimycine B as an antibiotic - isolated from cultures of micromonospora esp M olnoasterospora

KYOWA HAKKO KOGYO 17.04.73-JA-042696

*B03 +P34 (16.08.79) *BE-813-772 A61k-31/35 C07d-309/14*

Fortimycin B of formula (I) is new. Prepn. of cpd. (I) comprises propagation of Micromonospora olivoasterospora species, esp. ATCC 21 819, 31 009 or 31 010, in an aq. medium containing the usual nutrients, under aerobic conditions at 25-40°, followed by isolation of (I) using standard techniques and opt. salt formation.

(I) is an antibiotic with a wide spectrum of activity, esp. against microorganisms having resistance against other antibiotics, such as Staphylococcus aureus and Escherichia coli. 16.4.74 as 418349 (15pp047)



(I)

NATT D16 31007W/19 =DS 2450-148

Pepsin inhibition using sulphonated polystyrenes - esp. for preventing gastric or duodenal ulcers

NAT STARCH & CHEM CORP 23.10.73-US-408317

*A96 B04 C03 (16.08.79) *DT2450-148 C07g-07/02*

Process for inhibiting pepsin activity comprises treating aq. pepsin solns. at pH < 5.0 with a water-sol. sulphonated polymer or their water-sol. salts. In particular, sulphonated polymers of styrene, or sulphonated styrene copolymers with maleic acid, acrylic acid, methylstyrene or methyl methacrylate are used, having about 0.7-1.3 SO_3H gps. per styrene unit and $\overline{M}_r > 600$, pref. (5-7).10^5. Pref. salts are the Na salts.

The process is used for the treatment of peptic ulcers. 22.10.74 as 450148 (5pp047)

BIOS- D16 48003W/29 =DS 2460-599

Rapid identification of microorganisms - by determining amts. of carbon dioxide emitted from C14-labelled nutritive media

BIOSPHERICS INC 28.12.73-US-429629

*B04 J04 K08 +P31 R16 R19 (16.08.79) *DT2460-599 C12k-01/06*

Radioisotopic cpds. are used for the rapid identification of microorganisms. The microorganisms are propagated in the presence of a number of radioactive (esp. ^{14}C-labelled) substrates, and the radioactivity of the expired gases (esp. $^{14}CO_2$) is monitored with time. The radiorespirometric profile of the substrates with the unknown microorganism is compared with those of known species.

The process is used for rapid and repetitive diagnosis. 20.12.74 as 460599 (28pp047)

SYNO D16 11618X/07 =DS 2533-437

In-vitro culturing of plant cells - using lactose as the main carbon source

SYNTHELABO 26.07.74-FR-026040

*B04 +P13 (16.08.79) *DT2533-437 C12k-09*

Process for in vitro nutrition of plant cells of the Phanerogamen series comprises using lactose as the C source for a primary callus; or strains are propagated with other C sources with non-progressive or progressive selection, followed by propagation of selected stock with lactose or its natural derivs. as the main C source. 25.7.75 as 533437 (13pp047)

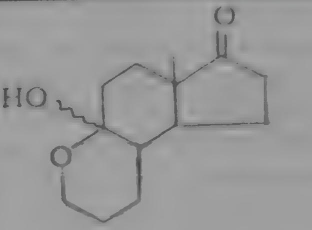
UPJO D16 39248Y/22 =DS 2660-011

Substd. methylhexahydro-indanones preparation - by culturing Mycobacterium fortuitum NRRL B-8128 in presence of steroids

UPJOHN CO 17.11.75-US-632650

*B02 (16.08.79) *NL7612-754 C07c-49/38 C07d-311/78 C12d-13*

New 7aβ-methylhexahydroindane-1, (5)-(di)one derivs. are prepd. by bacterial degradation of steroids opt. having a 17-(2-10 C alkyl) side chain. In partic., 3a,a-H-4a-(3-hydroxypropyl)-7aβ-methylhexahydroindane- -1,5-dione hemiketal of formula (I); the corresp. 5a-hydroxy-1-one hemiacetal; the 4a-(2-carboxyethyl)-5a-hydroxy-1-one δ-lactone; and the 4a-(3-hydroxy-propyl)-5a-hydroxy-1-one are obtd. from culture media in which suitable Arthrobacter, Bacillus, Brevibacterium, Corynebacterium, Mycobacterium, Nocardia, Protaminobacter, Serratia or Streptomyces mutants are propagated in the presence of such steroids.



(I)

Pref. steroids are sitosterol, cholesterol, stigmasterol, campesterol, androst-4-ene-3,17-dione, androsta-1,4-diene-3,17-dione, dehydro-epiandrosterone and testosterone, or their mixts. 17.11.76 as 660011 Div.ex 2652376 (6pp047)

MOEB/ D16 49085A/27 =DS 2752-485

Growing yeast on lactose-contg. dairy residues - using ammonia as inorganic additive, with fermentation of lactose to lactic acid and dextrin hydrolysis with amylase to give growth medium

MOEBUS O 24.11.77-DT-752485

*E35 (16.08.79) *NL7713-846 C12c-11/18*

Semi-continuous process for the prodn. of protein and baking yeast in an aerated fermentation vessel comprises optimum propagation of Saccharomyces cerevisiae in two alternating but separate growth phases I and II.

During phase I, nutrient solution, (mass g), containing carbohydrate, lactic acid and ammonium lactate, is introduced; during phase II, no nutrient is supplied until all lactic acid has been assimilated; and at the end of phase II, yeast suspension, (mass g), is removed. Pref. the carbohydrate in the feed is a source of lactic acid. 24.11.77 as 752485 (6pp047)

SNAM D16 45860A/26 =DS 2757-787

Porous fibre prepn. from polymer soln. or melt - by dispersing immiscible liquid or fine solid, spinning and removing disperse phase

SNAMPROGETTI SPA 23.12.76-IT-030799

*A32 B04 F01 (A18 A28 A94) (16.08.79) *BE-862-287 B01j-29 B01j-31/08 C07g-07/02 D01f-01/10*

Prodn. of fibres with a porous structure comprises dissolving suitable polymers in a convenient solvent, mixing the polymer soln. with glycerol, spinning, and removal of glycerol and solvent, (e.g. washing with water). In partic., cellulose triacetate, poly(L-γ-methyl glutamate) or vinyl chloride/vinyl acetate copolymers are used.

The porous fibres obtd. are used as insoluble matrices for chemical or biochemical reagents, (esp. catalysts, enzymes, enzyme inhibitors and proteins), ion-exchange materials, chelating agents or molecular sieves. 23.12.77 as 757787 (5pp047)

KERJ ★ D16 61567B/34 ★DS 2828-235

Recovering pure enzymes from crude tissue extracts - by adsorption on erythrocyte membranes then elution

KERNFORSCHUNGS JULICH 28.06.78-DT-828235

B04 (16.08.79) C07g-07/02

Isolation and purification of enzymes (I) from crude solns. obtd. from animal organs or tissues comprises adsorbing (I) onto a selective absorbant, then eluting (I).

The improvement is that membranes from human or animal erythrocytes are used as adsorbant. Before use those enzymes having an affinity for the membrane (almost) the same as that of (I) are removed, pref. by treatment with the soln. used for elution. The membranes are obtd. conventionally from erythrocytes which have been haemolysed by osmosis. The adsorbants themselves are also claimed.

(I) are used in clinical or food chemistry, botany, microbiology, pharmacology and agricultural chemistry. Provides simple and inexpensive process allowing recovery of individual enzymes in very pure form. 28.6.78 as 828235 (3pp1251)

DECH- ★ D16 61603B/34 ★DT 2805-366

Protein e.g. enzyme immobilisation on porous carrier - with minimal delay between adsorption and covalent binding to give non-homogeneous protein distribution

DECHEMA DEUTSCHE GE 09.02.78-DT-805366

A96 B04 (16.08.79) C07g-07

Prodn. of water-insol. proteins bound covalently to a porous carrier comprises adsorption of an aq. soln. of a protein carrying -COO$^-$ or -NH$_3$$^+$ gps. to an aq. suspension of a finely divided carrier having -NH$_3$$^+$ or -COO$^-$ gps. respectively, and subsequently forming covalent bonds by reaction with a carbodiimide deriv..

In this process, (a) the dissolved polymer to be bound to the carrier is used in an amt. substantially smaller than the amt. which corresponds to the max. adsorption capacity of the carrier for the protein, and (b) immediately after adsorption of the protein the protein is reacted with the carrier by addn. of a carbodiimide deriv., steps (a) and (b) being carried out within a short space of time such that the protein is only bound to the carrier by surface adsorption; and (c) the resulting prod. is sepd. from the reaction medium.

Process enables the protein to be inhomogeneously distributed over the carrier particles. The protein is concentrated on the surface of the porous carrier particles so that effective activity (e.g. enzyme activity) is increased. 9.2.78 as 805366 (18pp280).

BIOT- ★ D16 61639B/34 ★DT 2805-823

Oil extn. by flooding with water - contg. glyco-lipid nonionic surfactants made by biosynthesis (NL 14.8.79)

GES BIOTECH FORSCH (WINT) 11.02.78-DT-805823

E13 H01 Q49 (16.08.79) E21b-43/22

Oil is displaced from rock formations or oil sands by flooding with aq. dispersions of non-ionic glycolipid surfactants made in two stages by (1) continuous or semi-continuous growth of micro-organisms in a mixt. of 1-35 vol. % hydrocarbons with an aq. inorganic nutrient soln. and opt. other growth materials of 20-50°C and pH 3-9 with passage of air opt. enriched with O_2, and (2) sepg. the glycollipid from the cell material by temp., pH or osmotic shock.

The aq. phase is used directly as flooding agent or added to the flooding water, and the cell material, wholly or partly recycled to the culture medium. Pref. specific micro-organism strains are used to obtain glycolipids of known structure.

The controlled conditions allow prodn. of glycolipids of optimum compsn. and structure, which increase the oil yield by flooding. The oil extrd. can be used as carbon source in (A), and formation water contg. $\geqslant$10% salt can be used for sepn. by osmotic shock in (B). Recycling of cell material gives a saving in nutrient salts. 11.2.78 as 805823 (30pp195).

MILE ★ D16 61704B/34 ★DT 2855-433

Test reagent for uric acid determn. - contg. purified animal uricase, chromogen and peroxidase

MILES LABORATORIES INC 13.02.78-US-877500

B04 J04 R16 (16.08.79) C07g-07/02 G01n-31/14

Test reagent comprises a uricase of animal origin, $\geqslant$1 chromogen and a peroxidase.The improvement comprises using a uricase which is free of pH-sensitive impurities with a mol.wt. of $<$6000. Also claimed is the prepn. of such a uricase by fractionating (pref. dialysing) an animal uricase to remove components with a mol.wt. of $<$6000.

The reagent can be used in the diagnosis of uraemia, gout, leukaemia, pulmonary inflammations, etc. It allows the uric acid test to be effected in a single step and has good storage stability. 21.12.78 as 855433 (33pp367).

MEIJ ★ D16 61757B/34 ★DT 2905-066

Antibiotics SF-2050 and SF-2050b - produced by culturing Streptomyces strain (NL 16.8.79)

MEIJI SEIKA KAISHA 14.03.78-JA-028324 (14.02.78-JA-015026)

B04 (16.08.79) A61k-35/70 C07g-11 C12d-09/16

New antibiotics SF-2050 (I) and SF-2050B (II) and their salts are claimed, as is their prodn. by culturing a suitable Streptomyces strain, esp. Streptomyces sp. SF-2050 (ATCC 31450), under aerobic conditions in a medium contg. assimilable C and N sources.

Specifically (I) and (II) are unstable dibasic acids which form stable Na salts. They are characterised by their electrophoretic mobility, UV, IR and NMR spectra, and chromatographic characteristics. (I) has the elementary analysis C 32.5, H 5.0, N 5.8, S 13.3%; (II) has C 33.5, H 3.9, N 5.7, S 13.8%. Both lose their antibacterial activity when treated with NH_2OH. Their Na salts give a negative ninhydrin reaction and a positive NaI reaction.

Cpds. (I) and (II) are antibacterial agents and β-lactamase inhibitors. They are useful as broad-spectrum antibacterial medicaments and disinfectants, e.g. active against B. subtilis, S.aureus, E. coli, Proteus mirabilis, and K. pneumoniae at concns. of 10-80 ug/ml. 10.2.79 as 905066 (48pp367).

HOFF ★ D16 61777B/34 ★DT 2905-649

Trestatin amino sugar derivs. - useful as alpha-amylase inhibitors

HOFFMANN-LA ROCHE AG 14.02.78-GB-005834

B03 (16.08.79) A61k-31/71 A61k-37/64 C07h-05/06 C07h-15/20 C12d-13 C12k-03

New amino sugar derivs. viz. trestatin A, B and C, and their salts and mixts., are claimed. They all contain trehalose as a structural unit and are characterised by their elementary analysis, mol.wt., m.pt., specific rotation, UV, IR and ^{1}H NMR spectra, solubility and colour reactions.

Also claimed is their prodn. by culturing a suitable Streptomyces strain, pref. S. dimorphogenes NR-320-OM7HB (ATCC 31484) or NR-320-OM7HBS (ATCC 31485), in an aq. medium under aerobic conditions.

The trestatins are α-amylase inhibitors useful for treatment of diabetes, obesity, hyperlipaemia and atherosclerosis, for inhibiting dental caries, and as biochemical reagents. 14.2.79 as 905649 (48pp367).

DUPO ★ D16 61783B/34 ★DT 2905-844

Sepn. of creatine kinase isoenzyme(s) - using mixed ion-exchange resin bed (BE 14.8.79)

DU PONT DE NEMOURS CO 15.02.78-US-878001

A96 B04 (16.08.79) C07g-07/02

Sepn. of individual creatine kinase isoenzymes from a mixt. of such isoenzymes is carried out contacting the mixt. with a bed of mixed ion-exchange resins (esp. a mixt. of a weakly basic anion exchanger and a weakly acidic cation exchanger) and selectively eluting the isoenzymes, the MB isoenzyme being eluted first.

The sepn. process pref. forms part of an automated analysis system for determn. of the MB isoenzyme in serum samples (e.g. for diagnosis of myocardial infarct). The fact that MB is eluted first (before MM and BB) speeds up and simplifies the analysis. 15.2.79 as 905844 (10pp 367).

SCHD D16 56511B/31 =EP ---3-519

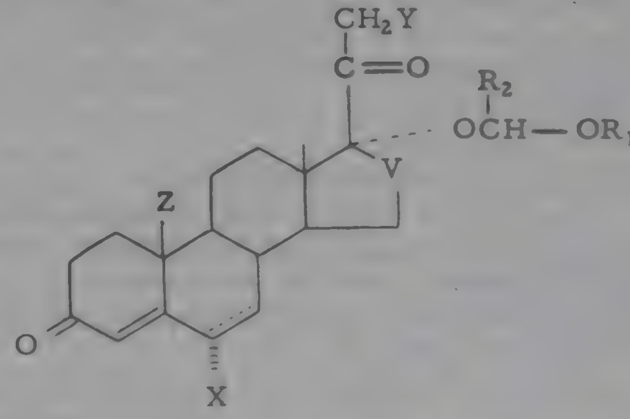
17-Alpha-alkoxy:alkoxy-pregn-4-ene-3,20-di:one derivs. - useful as starting materials for micro biological 11-beta-hydroxylation

SCHERING AG 25.01.78-DT-803660

*B01 (22.08.79) *DT2803-660 A61k-31/57 C07j-05 C07j-07 C07j-17*

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

(A) 17-substd. pregn-4-ene-3,20-dione derivs. of formula (I) are new:

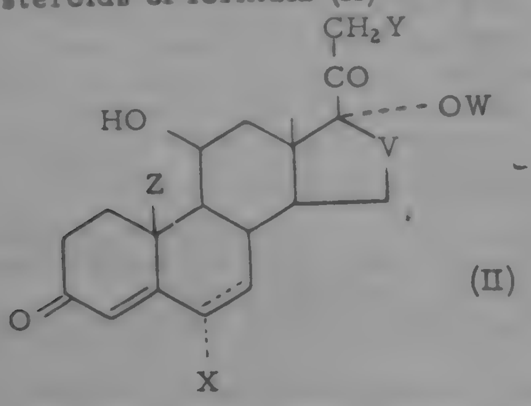


(I)

(where the dotted line indicates a single or double bond at the 6,7 position;

X is H, F or CH_3;
Y is H, OH or 1-6 C alkanoyloxy;
Z is H or CH_3;
V is $\succeq CH_2$, $\succeq CHCH_3$, $\succeq CHOH$ or $\succeq C{=}CH_2$;
R_1 is 1-6 C alkyl opt. interrupted by an O-atom;
R_2 is H or 1-6 C alkyl;
or $R_1 + R_2$ is tri- or tetra-methylene; and
Y is OH or alkanoyloxy).

(B) The use of cpds. (I) for the prepn. of 11-hydroxylated steroids of formula (II) is new:



(II)

(where W is H or $-CHR_2-OR_1$).

(I) are starting materials for microbiological 11β-hydroxylation, in which they give better yields of (II) than corresp. 11-deoxy-17α-acyloxy steroids. (I) also have pharmacological activity which is often superior to that of the corresp. 17α-hydroxy steroids and their esters, sometimes with a favourable dissociation of desirable and undesirable effects.
22.1.79 as 100183 (25pp280).
(G) ISR: US2924597; DT1618599.

HOFF ★ D16 61795B/34 ★EP ---3-524
Dextro-arabitol sweetener prepn. - by aerobically cultivating Torulopsis candida microorganism strain in aq. medium contg. assimilable carbon source
HOFFMANN-LA ROCHE AG 24.01.78-GB-002813
B05 E17 (D13) (22.08.79) C07c-31/18 C12d-13/02
D/S: E(BE, CH, DT, FR, GB, IT, NL).

Prepn. of D-arabitol (I) comprises cultivating a Torulopsis candida microorganism strain (A) capable of selectively producing (I) from an assimilable carbon source, under aerobic conditions in an aq. medium

(I) can be used as a sweetener. (I) is obtd. in high yields, without the simultaneous formation of other polyhydric alcohols.
12.1.79 as 100197 (15pp200).
(G) ISR: J37003547; J47020394; 2 Journal References.

WELL ★ D16 61796B/34 ★EP ---3-529
Lipid-free antigen prepn. from epimastigote Trypanosoma cruzi - useful for conferring immunity to Chagas disease
WELLCOME FOUNDATION LTD 25.01.78-GB-002975
B04 C03 (22.08.79) A61k-39 C12k-05
D/S: E(BE, CH, DT, FR, GB).

Antigen prepn. obtd. from the epimastigote stage of Trypanosoma cruzi comprises microsomal antigen in lipid-free form.

The prepn. is useful in a vaccine for conferring immunity against Chagas' disease in mammals. Since the antigens associated with the flagellae of the organisms are preferentially removed during prodn. of the antigen prepn., undesirable autoimmunogenic side effects on use of the prepn. are reduced.
24.1.79 as 100209 (20pp1248).
(E) ISR: US3911097; 6 Journal References.

HOFF D16 61777B/34 =EP ---3-616
Trestatin amino sugar derivs. - useful as alpha-amylase inhibitors
HOFFMANN-LA ROCHE AG 14.02.78-GB-005834
*B03 (22.08.79) *DT2905-649 C08b-37 C12d-13 + C07h-15/20*
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

The amino sugar derivs. trestatin A, B and C, and their salts and mixts., are new. They all contain trehalose as a structural unit and are characterised by their elementary analysis, mol.wt., m.pt., specific rotation, UV, IR and 'H and colour reactions.

The trestatins are α-amylase inhibitors and hypoglycaemic agents useful for treatment of diabetes, obesity, hyperlipaemia and atherosclerosis, for inhibiting dental caries, and as biochemical reagents. They are non-toxic at 500 mg/kg p.o. in rats (65-700 times the active dose).
14.2.79 as 100441 (48pp367)
(G) ISR: FR2244536; DT2347782; FR2120073; FR2346368.

AMCY ★ D16 61831B/34 ★EP ---3-644
Animal feed supplements for increasing growth rate - comprise pptd. complexes of Antibiotic trans-BM 123-gamma
AMERICAN CYANAMID CO 02.02.78-US-874432 (02.02.78-US-874306)
B04 C03 (D13) (22.08.79) A23k-01/17 C07g-11 C07h-15/20 C12d-09
Intermediate Priorities: 2.2.78(2) - US-874307/8.

D/S: E(BE, CH, FR, GB, NL, SW).

Animal feed supplement (I) is obtd. by adding a complexing agent (II) to a fermentation whole harvest mash contg. Antibiotic trans-BM 123γ, or to a filtered fermentation broth contg. Antibiotic BM 123γ, at a suitable acid pH; then recovering the pptd. complex. (II) is a synthetic tanning agent, an alkali metal alkylsulphate or a dioctylsulphosuccinate salt.

(I) is recovered economically, and almost complete pptn. of antibiotic occurs. (I) is suitable for direct use in feeds to enhance the growth rate of animals such as poultry, swine and early weaned pigs and in ruminants. Used in feed to give 2-350 mg./animal daily.
23.1.79 as 300116 (41pp1248).
(E) ISR: FR2202680; US4007167; US3856937; US3832462.

MERI ★ D16 61853B/34 ★EP ---3-692
Heat labile enterotoxin isolated from Escherichia coli - useful in a vaccine for protecting against diarrhoea
MERCK & CO INC 30.01.78-US-873181
B04 C03 (22.08.79) A61k-39/02 C07g-07 C12k-05
D/S: E(BE, CH, DT, FR, GB, NL, SW).

A new, heat-labile enterotoxin (I) isolated from E. coli has a molecular wt. of 10000-13000, contains 90% protein, 2% hexose and no 2-ketodeoxyoctonic acid, and shows no activity in the limulus lysate assay.

(I) is useful in a vaccine for admin. to man and animals to provide active immunisation in protecting against E. coli induced diarrhoea. When pregnant animals are treated, passive immunity is induced in their offspring. Dose is 25-1000 μg (I) to give immunity for up to 3-4 months.
23.1.79 as 400043 (18pp1248).
(E) ISR: US4053584. 2 Journal References.

UPJO ★ D16 61895B/34 ★FR 2408-621
Mutant microorganisms for selectively degrading steroid(s) - to androstane-3,17-di:one derivs. by aerobic fermentation, are esp. of Mycobacterium genus
UPJOHN CO 09.11.77-US-849526
B04 (B01) (13.07.79) C07j-01 C12d-13
New mutants of the genera Arthrobacter, Bacillus, Brevibacterium, Corynebacterium, Microbacterium, Mycobacterium, Nocardia, Protaminobacter, Serratia and Streptomyces are able to selectively degrade steroids (A) having a 2-10C alkyl side-chain at the 7 position so as to accumulate androsta-1, 4-diene-3, 17-dione (I) and androsta-4-ene-3, 17-dione (II) in the fermentation medium. Fermentation is carried out under aerobic conditions in an aq. nutrient medium. Use of these mutants to produce (I) and (II), esp. from sitosterol, cholesterol, stigmasterol and campesterol is also new.

(I) and (II) are intermediates in synthesis of hormones e.g. oestrone and testosterone. Specifically claimed microorganisms are mycobacterium fortuitum NRRL B-8153 and M. phlei NRRL B-8154. 11.5.78 as 014031
Add to 28.2.77 - 005773 (13pp1251).

REFU- D16 30996Y/18 =GB 1551-019
Fuels made from organic solid wastes - by composting the material, opt. with sewage sludge, and burning the prod. e.g. in steam raising plants or rotary ovens
REFUSE DERIVED FUEL 24.12.75-GB-052853
*H09 L02 + Q73 (D15) (22.06.79) *BE-849-853 C10l-05/46*

Heat is produced by composting solid organic waste in a rotating drum for an average residence time of 12-48 hrs. and burning the composted waste e.g. in a kiln for the calcination of an inorganic material. Esp. the waste is screened to give an aversize fraction having a water content less than that of the starting waste and an undersize fraction having a water content greater than that of the starting waste, the undersize fraction being composted. Partic. the organic waste is composted in admixture with sewage sludge.

Pref. the waste is composted to a water content of $\not> 20$ (partic. 15-20) wt.% and the prod. has a calorific value of e.g. 3,000-5,000 cals/g. on a dry basis. 24.12.76 (14pp990)

REFU- D16 30996Y/18 =GB 1551-020

Fuels made from organic solid wastes - by composting the material, opt. with sewage sludge, and burning the prod. e.g. in steam raising plants or rotary ovens

REFUSE DERIVED FUEL 24.12.75-GB-052853 (00.00.78-GB-027700)

*H09 L02 +Q73 (D15) (22.08.79) *BE-849-853 C10l-05/46*

A fuel is produced by composting solid organic waste in a rotating drum to give a composted product having a water content of $\not> 20$ (esp. 15-20) wt.%, the average residence time of the waste in the drum pref. being 12-48 hrs. Esp. the waste is screened to give an oversize fraction having a water content less than that of the starting waste and an undersize fraction having a water content greater than that of the starting waste, the undersize fraction being composted. Partic. the organic waste is composted in admixture with sewage sludge.

The product has a calorific value of e.g. 3,000-5,000 cals/g. on a dry basis, and it is burnt e.g. in a furnace used forcalcining. 24.12.76 Div.ex 1551019(14pp990)

BEHW D16 96508X/52 =GB 1551-064

Stable microbial clumping factor - for detecting cleavage products of fibrinogen and fibrin (BE101276)

BEHRINGWERKE AG 10.06.75-DT-525804

*B04 R16 (22.08.79) *DT2525-804 C12k-01/04 G01n-33/16*

Homogeneous suspension of a destroyed dumping factor positive microorganism in a buffered aq. soln. has a pH of 7-7.7 and comprises $\leqslant$ 50 (3-50) wt.% of a polyhydric alcohol. Pref. the alcohol has a molecular wt. of 60-500000 and is glycerol, glycol, mannitol, polyethylene glycol or a dextran. The microorganism is a dumping factor positive strain of straphylococci.

Suspension is used as reagent for indentifying fibrinogen and fibrin cleavage prods. 10.6.76 as 024057(6pp982)

FABR D16 42224A/24 =GB 1551-178

Adjuvant for non-specific immuno-stimulation and vaccine potentiation - contains ribosomes or ribosomal ribonucleic acid from specific bacteria

FABRE P SA 21.12.76-FR-038566

*B04 (22.08.79) *BE-861-782 A61k-35/74 A61k-39 +A61k-37/10*

Immunotherapeutic compsn. comprises a non-specific immunityadjuvant comprising the ribosomes and/or the ribosomal ribonucleic acids (DNA) on a bacterium. The latter is selected from Corynebacterium acnei, C parvum, C granulosum, C.flavidum, Mycobacterium snegmatis, M.chelonei, Nocerdia astersides, N. brasiliensic, N. rhodocrans, N.opaca and N.rubra.

The compsn. also contains $\geqslant$1 other non-specific immunityadjuvant as just defined and/or a therapeutically acceptable excpient and/or a vaccine and/or $\geqslant$1 other immunity adjivant. Pref. the compsn. is in freeze-dried form.

A typical claimed compsn. comprises 30 mg ribosomal DNA of C. parvum and 5 mg. mannitol. 20.12.77 as 052961(6pp393)

SANY ★ D16 62118B/34 ★J5 4086-690

Pharmaceutically active 3-hydroxy-3-methyl glutaric acid prodn. - by culturing suitable fungi of candida genus

SANKYO KK 20.12.77-JA-153351

B05 E17 (10.07.79) C12d-01/02

Prodn. of 3-hydroxy-3-methylglutaric acid (I) comprises culturing a (I) producing fungus of Candida genus to yield (I) and removing the prod.

(I) inhibits viosynthesis of cholesterol and is used to treat and prevent arteriosclerosis and high blood fat diseases as a anticholesterol drug. A suitable fungus is C. sorbosa. 20.12.77 as 153351 (5pp69)

TOKU ★ D16 62119B/34 ★J5 4086-691

Glutathione prodn. by cultivating e.g. Saccharomyces microorganisms - in a system contg. anionic, cationic or nonionic surfactant

TOKUYAMA SODA KK 19.12.77-JA-152695

B04 (B05) (10.07.79) C12d-13/06

Process uses a yeast of the Saccharomyces, Pichia, Hansenulla, Torulopsis, Candida or Rodotolura genus. A pref. an ionic surfactant is Na lauryl sulphonate and pref. nonionic surfactants are polyoxyethylene alkyl phenol ether and polyoxyethylene lauryl ether.

Prod. is an antidote or is used in medicines which activate various enzymes. 19.12.77 as 152695 (7pp69)

AJIN ★ D16 62120B/34 ★J5 4086-692

Fermentative prodn. of L-glutamic acid - using glucose or sucrose-consuming bacteria in aerobic conditions, at a constant PH level and specified ammonium ion concn.

AJINOMOTO KK 23.12.77-JA-155266

B05 E16 (10.07.79) C12d-13/06

The method comprises (a) culturing the bacteria showing producibility for L-glutamic acid, aerobically in a liquid culture medium contg. glucose or sucrose as the major carbon source, (b) supplying glucose or sucrose in the medium at the time when glucose or sucrose concn. in the culture medium is decreased to the prescribed concn. of $<$10g/dl, and (c) adding aq. ammonia of gaseous ammonia in the culture medium at the time when ammonium ion concn. in the culture medium is decreased to prescribed lowest concn. of $>$ 0.3g/dl, until the ammonium ion concn. is increased to the prescribed highest concn. of $<$ 1.2 g/dl while keeping pH of the culture medium at constant level.

Method further comprises (d) adding alkali metal hydroxide in the culture medium while keeping pH of the culture medium at constant level until ammonium ion concn. is again decreased to the lowest concn. and (e) thus effecting the fermentation while keeping ammonium ion concn. in the range between the prescribed highest concn. and the prescribed lowest concn. while keeping pH of the culture medium at a constant level of 7.2-8.1.

L-Glutamic acid can be accumulated in the culture medium with 1.5 times higher concn. compared with that by the conventional method. 23.12.77 as 155266 (3pp5)

SANY ★ D16 62121B/34 ★J5 4086-693

Antibacterial, anti:leukaemic Botryodiplodine prodn. - by aerobic cultivation of fungi of Lacunospora, Triangularia or Zopfiella genus in water soluble medium

SANKYO KK 20.12.77-JA-153350

B03 (10.07.79) C12d-09/04 C12d-13

The process comprises culturing Botryodiplodine-producing fungi of Lacunospora, Triangularia or Zopfiella genus in water-soluble culture medium under aerobic conditions and taking out Botoryodiplodine from the culture mixt.

Botryodiplodine (4-acetyl-2-hydroxy-3-methyltetrahydrofuran) has antibacterial action and antileukaemia action. Partic. effective fungi strains are e.g. Lacunospora tetraspora SANK 25077 (FERM-P-4340), Triangularia bambusae IFO 30009, Zopfiella matsushimae SANK 28875 (FERM-P-4339). 20.12.77 as 153350 (5pp69)

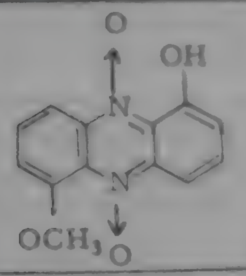
MEIJ ★ D16 62122B/34 ★J5 4086-694

Prodn. of antibiotic Myxin - by culturing a strain of Pseudomonas e.g. BN-209, useful against Gram-positive and -negative bacteria and mould

MEIJI KK 22.12.77-JA-153566

B02 (10.07.79) C12d-09/20 C12d-13

Prodn. of antibiotic Myxin comprises culturing antibiotic Myxin-producing bacteria of Pseudomonas genus and taking out Myxin from the cultured mixt. As an example of fungi strain may be cited BN-209 strain separated from soil at Gumma prefecture Maebashi-city. Myxin is of formula (I)



(I)

Myxin is an antibiotic having antibacterial action to grammpositive bacteria and grammnegative bacteria and mould. 22. 12. 77 as 153566 (7pp69)

YAMS ★ D16 62123B/34 ★J5 4086-696
Citocarasin-E prodn. by Aspergillus terreus culture - active as cell protoplasm partition inhibitor
YAMASA SHOYU KK 22.12.77-JA-153630
B04 (10.07.79) C12d-09/04

Prepn. of Citocarasin E comprises culturing Aspergillus terreus M-120-7 (FERM-P 4255) Citocarasin E is a physiologically active substance that inhibits partition of cell protoplasm and is an important reagent in the study of the relation of cell physiological activity and body membranes.

Mycological properties of Aspergillus terreus mould strain M-120-7 are described in details.

In an example, water (1. 8 l) was added into wheat bran (3 kg) and resultant mixt. was stirred and subjected to sterilisation at 120°C for 30 minutes. After cooling, precultured Aspergillus terreus M-120-7 (FERM-P 4255) was inoculated and cultured at 28°C for a week. 22. 12. 77 as 153630 (6pp69)

KIBU- ★ D16 62514B/34 ★J5 4089-081
Culture medium produced from distillers solubles - involving centrifuging or filtering extract soln., adding alkali, removing resulting ppte., and opt. fractionally centrifuging
KIBUN KK 27.12.77-JA-156669
(14.07.79) C12b-03/12 C12c-11/08 C12d-09/04

An extract soln. contg. distillers-solubles or distillers-dried solubles is treated with a centrifugal sepg. step or a filtering step and then, an alkaline material is added to the produced transparent soln. to adjust its pH to ⩾ 7. The resulting ppte is removed from the prod. opt. components having different mol. wts. are removed from the filtrate by fractional centrifugal sepn.

Alternatively the extract soln. contg. the distillers-solubles or the distillers-dried solubles is treated with the centrifugal sepg. step or the filtering step and the components having different mol. wts. are fractionally sepd. Then an alkaline cpd. is added to the produced transparent soln. to adjust its pH to ⩾ 7 and the ppte obtd. is removed

Distillers-solubles is produced from a waste material which is obtd. in distillating whisky and has hitherto been used as a cattle feed. The above treated, purified distillers-solubles is mixed with amino acid, antibiotic material, organic acid, molasses, decomposed starch and corn steep liquor and thus, a culture medium for fermentation of microorganisms is obtd. The culture medium is very effective for producing enzymes, yeasts and vitamins by microorganism fermentation. 27. 12. 77 as 156669 (27pp15)

AMAN ★ D16 62515B/34 ★J5 4089-082
Collecting enzyme of Rhizopus genus - by extracting from solid culture bran medium using agent contg. mould protease or raw enzyme produced bacterially
AMANO PHARM KK 27.12.77-JA-156671
B04 C03 (14.07.79) C07g-07/02 C12d-13/10

Enzyme produced from Rhizopus Genus is extracted from a solid culture bran medium by using an extracting agent contg. a mould protease or a raw enzyme produced bacterially. The mould protease is produced by fermentation of Aspergillus oryzae, Aspergillus saitoi or Penicillium Monilia. Extracting soln., water, aq. soln. contg. alkali or salts or a mixt. of water and water soluble organic solvent may be used. Pref. the raw enzyme is added in an amt. of 0. 1-0. 001 wt. % to the extracting soln.

In an example, 15 kg of Koji mould was packed in a column of dia. 20 cm as the Koji mould layer having 100 cm of thickness and 25 l of the extracting soln. at 5°C was poured into the column. The fermented soln. was collected at the bottom of the column. Lipase and protease produced from Rhizopus Genus are produced with high yield rate at 5°C.

Lipase and protease produced are used for producing pharmaceuticals or as additives for food or cattle feed. 27. 12. 77 as 156671 (6pp15)

SUMI/ ★ D16 62516B/34 ★J5 4089-083
High stability, sol. urokinase compsn. - prepd. by adding dextran sulphate to urokinase and freeze-drying
SUMI H 27.12.77-JA-159387
B04 (14.07.79) C07g-07/02

Urokinase compsn. having good solubility and appearance, high stability after dissolving and excellent therapeutic effect, is prepd. by adding dextran sulphate to urokinase and freeze-drying the resultant substance.

Urokinase is a useful anti-thrombus drug and for combined therapy with carcinostatic drugs. 27. 12. 77 as 159387 (2pp69)

ILLI- ★ D16 B/34 ★J5 4089-084
Passivation of enzymes
ILLINOIS WATER TREA 03.10.77-US-838544
A96 B04 (14.07.79)

3. 10. 78 as 121916

AJIN ★ D16 62517B/34 ★J5 4089-085
L-Glutamic acid prodn. by a cultivation process - using acid-resistant brevibacterium or Corynebacterium cenus microorganisms
AJINOMOTO KK 27.12.77-JA-159445
B05 E16 (14.07.79) C12d-13/06

A process for producing L-glutamic acid is claimed in which Microorganisms of the Brevibacterium or Corynebacterium Genus having resistance to fluorocitric acid, keto-malonic acid, (alpha)-amino-(beta)-hydroxy-valerianic acid, DL-threonine-hydroximic acid, 2-amino-3-phosphopropionic acid and 5-amino-levulinic acid are cultivated in a culture medium and the L-glutamic acid produced by fermentation is collected.

Specified microorganisms producing L-glutamic acid are Brevibacterium lactofermentum, Brevibacterium flavum, Brevibacterium divaricatum, Brevibacterium saccharoliticum, Corynebacterium glutamicum, Micrococcus glutamicum and Corynebacterium acetoacidophilum. The culture medium consists of glucose, potassium dihydrogen phosphate, magnesium sulphate heptahydrate, thiamine-hydrochloride, a conc. soln. contg. decomposed soyabean, iron sulphate heptahydrate, manganese sulphate tetrahydrate and biotin. Cultivation is carried out at 24°C to 37°C and pH 6 to 9 under aerobic conditions. PH is adjusted by using organic or inorganic acid, alkaline material, calcium urea-carbonate or ammonia gas.

L-glutamic acid is a precursor of medicines and other valuable organic materials such as condiments. 27. 12. 77 as 159445 (4pp15)

KYOW ★ D16 62518B/34 ★J5 4089-086
Coenzyme-Q-10 prodn. by culturing microorganism - in medium contg. biosynthesis precursor of Coenzyme-Q-10 or metabolism-related substance etc.
KYOWA FERMENTATION KK 27.12.77-JA-158202
B05 (14.07.79) C12d-13

Coenzyme Q_{10} producing microorganism is cultured in culture medium to produce coenzyme Q_{10}. The process comprises carrying out culture in the presence of biosynthesis precursor of coenzyme Q_{10} or its metabolism-related substance or natural substance contg. those substances or treated substance thereof in culture medium.

Pref. the biosynthesis precursor of coenzyme Q_{10} or its metabolism-related substance, is L-tyrosine, L-phenylalanine, protocatechuic acid, p-coumaric acid, p-hydroxybenzoic acid, trans-cinnamic acid, shikimic acid, methionine, isoprenyl alcohol, vanilic acid or prephenic acid. The natural substance or its treated prod. is e.g. silkworm excreta or its treated substance or extract of tobacco leaves. 27. 12. 77 as 158202 (5pp69)

TOYM ★ D16 62519B/34 ★J5 4089-087
Prodn. of androstane cpd. used in hormone therapy - by oxidising a sterol by the fermentation of a microorganism
TOYOBO KK 09.11.77-JA-135166
B01 (14.07.79) C12d-13

A sterol (i.e. steroid alcohol distributed in animals and vegetables) is oxidised by the fermentation of the microorganism in a culture medium contg. active carbon, to ve an androstane cpd. having a dehydrogenated A ring.

Pref. the microorganism is of the genus Arthrobacter, rotaminobacterial, Mycobacteria, Nocardia, Brevibact- ium, Corynebacteria, Bacillus, Azotobacter, Strepto- yces or Pseudomonas; the active carbon is powdered, anulated or fibrous carbon activated with water vapour; e culture medium also contains a C source, N source, tibiotic, vitamins and inorganic material; the C source grape sugar, molasses, cane sugar, dextrin, starch, ycerine, etc.; the N source is meat extract, corn steep quor, yeast extract, peptone, casein or soyabean powd- s; the inorganic material is ammonium sulphate, amm- nium chloride, potassium biphosphate, calcium cpd., agnesium cpd., iron cpd., zinc cpd., manganese cpd., obalt cpd. and copper cpd. 9.11.77 as 135166(5pp15)

IIN ★ D16 62520B/34 ★J5 4089-088

Alpha-aminoacid prodn. for pharmaceuticals - by treating 5- bstd. hydantoin with Pseudomonas hydantoinpilum

AJINOMOTO KK 26.12.77-JA-157107

B05 (14.07.79) C12d-13/06

he process comprises treating 5-substd. hydantoin with seudomonas hydantoinpilum to convert 5-substd. hydan- in into D-α-amino acid and taking out resultant prod. D- amino acids, D-phenylglycin and D-p-hydroxyphenyl- ycin etc. are useful as material of medicines etc.

In an example, culture medium (50 ml) contg. glucose .0 g/dl), $(NH_4)_2SO_4$ (0.5 g/dl), KH_2PO_4 (0.1 g/dl), $_2HPO_4$ (0.1 g/dl), $MgSO_4$-$7H_2O$ (0.05 g/dl), $FeSO_4.7H_2O$ mg/dl), $MnSO_4.4H_2O$ (1 mg/dl), yeast extract (1.0 g/dl), L-5-methylmercaptoethyl-hydantoin (0.2 g/dl) and cal- ium carbonate (4.0 g/dl) (separately sterilised) was ster- ised at 120°C for 15 minutes. Pseudomonas hydanto- nophyrum AJ 11220 (cultured on bouillon agar-agar cul- re medium at 30°C for 24 hours) (1 platinum loop) was oculated into the culture medium and cultured at 30°C r 20 hours. Fungi body was separated out by centrifugal eparation and washed with physiological salt water in an mt. equal to the amt. of culture liquor and fungi body was ollected.

The fungi body was added to 0.1 M phosphoric acid uffer (pH 8.0) (end 5 ml) contg. 1 g/dl of hydantoin cpd. give concn. of hydantoin of 5 g/dl. Resultant mixt. was aintained to 30°C for 16 hours to carry out reaction. 6.12.77 as 157107 (6pp69)

OYM ★ D16 62548B/34 ★J5 4089-683

etermination of amylase activity - using malto-oligosaccharide aving aryloxy gps., subjecting substrate to beta-glucosidase and etermining liberated aromatic hydroxy cpd.

TOYOBO KK 12.12.77-JA-149566

B04 J04 R16 (16.07.79) G01n-31/14

ethod for determination of amylase activity, comprises 1) exposing a glycoside of malto-oligosaccharide (pref. hose composed of 4-6 maltose units) having aryloxy gp. ombined with its reducing end through a beta-linkage, 2) subjecting the substrate to subsequent (or simultaneous) ction of beta-glucosidase, and (3) measuring the quantity f liberated aromatic hydroxy cpd.by a suitable method.

Method permits determination of amylase activity with- ut interference from monosaccharides present in the ample.

In an example, 0.5 ml. of 0.25 wt.% soln. of p-nitro- henyl-beta-maltotrioside, 0.5 ml. of 8 U/ml soln. of eta-glucosidase and 1.0 ml. of 0.1 M phosphate buffer oln. (pH 6.9) contg. 0.1 M/ltr of NaCl were mixed to repare the amylase-activity determining reagent. To the eagent, diluted saliva was added and reacted at 37°C for 0 minutes. 2 ml. of 1 M Na_2CO_3 soln. was added to stop he reaction, and the absorbance at 400 nm was determin- ed. The absorbance showed satisfactory linearity with he activity of amylase (Somogy units/dl.). 12.12.77 as 149566 (5pp173)

HAYB D16 05456R/04 =J7 9021-420

ong-and short - chain amylose prodn from starch

HAYASHIBARA KK 30.04.68-JA-029243

*(30.07.79) *DT1922-295 C13l-01/12*

tarch is subjected to treatment with α-1, 6-glucosidase to ecompose the polymeric amylopectin into short chain amylose, whereby the natural long chain amylose can be differentiated from the short chain amylose by their mol. wt., and then the two amyloses are separated from each other.

For example, starch is pasted at 100°C and adjusted to concentration of 10% and pH 5-6, followed by rapid cooling in vacuo, and then mixed with enzyme solution of Escherichaiintermedia ATCC 21073 and kept at 45°C for 40 hrs. to allow the reaction to take place. The resulting pptes. are separated by centrifugation, and the resulting liquid portion is cooled to 5°C and the resulting pptes. are further separated by centrifugation. The resulting liquid and the washing solution are spray-dried to give solid. The first pptes. are high polymer amylose, and the second ppte. and the last solid are low molecular amylose. 30.4.68 as 029243 C131-1/12 (30.7.79) HAYASHIBARA KK (5pp22)

ZAID D16 14079V/08 =J7 9021-435

Antibiotic, leucyl negamicine - by incubation of Streptomyces M89-C2

MICROBIOCHEM RES FO 06.07.71-JA-049222

*B04 (30.07.79) *J48018-488 +A61k-37/02 C07c-103/50 C12d-03 C12d-09/14*

Streptomyces M89-C2 was incubated aerobically in a known medium at pH 7.4 and 27° for 94 hr. Leucylnegamicine and negamicine were sped. on Amberlite columns and lyophilised. Yields were 49 and 146 mg, resp. 6.7.71 as 049222 C12d-9/14, A61k-37/02, C07c-103/50, C12d-3/00 (30.7.79) MICROBIOCHEM RES FOUND (9pp)(J48018488)

MITU D16 41067X/22 =J7 9021-436

Viable sepn of tentoxin from culture tank - produced in known method from Alternia - mari - Roberts AKI-3

MITSUBISHI CHEM IND KK 08.10.74-JA-115771

*B04 (30.07.79) *J51044-693 +C12d-07 C12d-13*

In the known culture method for the prepn. of tentoxin from Alternia-mari-Roberts AKI-3 in solid, liq. and static culture methods a novel method for the uptake of the prod. from the fermentation tank is claimed. The deep aerobic liq. culture process is industrially profitable. 8.10.74 as 115771 C12d-13/00, 7/00 (30.7.79) MITSUBISHI CHEM IND KK (4pp)(J51044693)

TAKE D16 00937W/01 =J7 9021-437

Deacetoxycephalosporin C - antibiotic and intermediate from fermentation cultures

TAKEDA CHEMICAL IND KK 08.10.73-JA-113000

*B02 (30.07.79) *NL7408-018 +C12d-09/04*

Title cpd. (I) is obtd. by incubating Streptomyces species, pref. S grisens U-25 (1FO 13550) or S.hygroscopicus U-442 (1 FO-13598). Cephalosporium species pref. ATCC 14553. C.acremonium K-186 (1 FO-9918), or C.polyaleneum 7-64 (1FO-9920), Emericellopses species. pref. K-163 (1FO-9922), Paccilomyces species, pref. P.carneus C-2237 (1FO-9729). C-4053 (1FO-9730), or P.persici -nus C3009- (1F/-9731), Anixiopsis species pref. A.peruviana CBS- 301.67 or K-21 (1FO-9916), Arachnomyces species pref. A.minimus CBS-324, 70 or K-154 (1FO-9917) or Spiroidium species, pref. S.fuscum (1FO-5479) or K-461 (1FO- 9923) at 18°-40° and pH 2-10, in a suitable medium contg. C, N and inorganic salts and (I)-promoting additives e.g. methionine, cysteine and/or cystine etc. as appropriate.

The prod. is isolated chromatographically from the filtered broth. 8.10.73 as 113000 C12d-9/04 (30.7.79) TAKEDA CHEMICAL IND LTD (3pp)(J50063193)

AMCY D16 79238V/46 =J7 9021-438

Isolation of antibiotic AV-290 from Streptomyces candidus - by pptn from clarified broths using long chain primary alkyl alkali metal sulphonates

AMERICAN CYANAMID CO 27.04.73-US-355240

*B04 C03 (D13) (30.07.79) *BE-814-267 A23k-01/17 C12d-09/14*

The alkali metal sulphates are cpds. (I):-

$CH_3(CH_2)_nOSO_2OM$ (I) (where n is 9-17 and M is Na or K). they are added to the broth the p-t of which is adjusted to 1.9-2.1 and the sepd. adducts may be used in compsns. and complements for animal and poultry feeds as

growth promoting agents. 25.4.74 as 046086 (clg. 27.4.73-US-355240) C12d-9/14, A23k-1/17 (30.7.79)
AMER CYANAMID CO (7pp)(J50013594)

ELIL D16 25226Y/15 =SU -632-307
Antifungal antibiotic A-22082 - obtd. by culture of Aspergillus nidulans strain
ELI LILLY & CO 02.10.75-US-619108
*B04 C03 (15.09.78) *BE-846-830 C12d-09*

Antibiotic A-22082 (I) and mixts. contg. it are obtd. by culturing Aspergillus nidulans NRRL 8112 under submerse aerobic conditions in a medium contg. assimilable C and N sources and mineral salts, sepg. a mixt. contg. (I) from the culture broth, and opt. isolating (I).

(I) has antifungal activity, e.g. with an ED_{50} of 50 mg/kg. (s.c., mouse) against Candida albicans.
Higgins, C.E., Michel, K.H. Bul. 41/5.11.78. 29.9.76 as 404804 (4pp)

FORE= ★ D16 62671B/34 ★SU -632-339
Washing and grading apparatus for fungi - has spaced meshes in vertical cylinder with polyurethane-coated vanes on rotary shaft
FORESTRY TIMBER PRO 27.12.76-SU-434567
A88 (20.11.78) A23n-13 A23n-15

Apparatus for washing and grading fungi without damage comprises a cylindrical housing with an axial shaft carrying working members. Grading meshes are mounted above each member, and each member consists of two vertically spaced vanes with trapezoidal-shaped blades with the smaller end downwardly and coated with elastic material. The meshes have apertures of different diameter.
Maskaev, N.M., Ulanenkov, A.M. Bul. 42/15.11.78. 27.12.76 as 434567 (2pp1358)

GROZ= ★ D16 62675B/34 ★SU -632-370
Evaporation control for chemical engineering and foodstuffs industry - with evaporator load optimised by computing rate of change of productivity in terms of moisture evaporated
GROZNY PROMAVTOMATI 13.06.77-SU-494787
J01 R26 (25.11.78) B01d-01 G05d-27

Previous method for control of evaporation varied the evaporator loading according to the duration of the run through it. Now for optimal loading, the load is corrected according to the rate of change of evaporator productivity in terms of moisture evaporated. Thus allowance is made for different rates at which surfaces of heat-exchangers become fouled. The method can be used in chemical engineering, foodstuff inds. and microbiology.
Kozlova M.A., Onishchuk B.S., Pismennyi V.V. et al Bul. 42/15.11.78 13.6.77 as 494787 (2pp840)

BIOL= ★ D16 62689B/34 ★SU -632-384
Turbo-ejector for aerated liquid - used for aerobic cultures, has vanes which direct liquid to outlet nozzles, where attachments increase aeration
BIOLOG ENG RES INST (SVET=) 06.01.77-SU-441323
(15.11.78) B01f-05/16 C12b-01/16

Turbo-ejector for use in the microbiology inds. can be used for aerating and mixing culture media during the aerobic cultivation of micro-organisms, such as yeast. It comprises body fastened to a hollow shaft and having profiled sections, so that circular jets are formed between them. Vanes are located inside the nozzles for ejecting the gas/liquid mixt. Inside the body is a fan, consisting of two discs with blades placed between them.

The mass-transfer process is improved, due to the increased degree of dispersion of the gas in the liquid, as well as the increased quantity of gas passing through the liquid, by adding attachments around the outside dia. of the discs in the fan for breaking up the liquid flow. The inlet part of the vanes for ejecting the gas/liquid mixt. is placed between the attachments.
Kalunyants K.A., Krasnolutskaya T.I., Stepanishchev K.P. et al. Bul. 42/15.11.78 6.1.77 as 441323 (2pp29)

STEI- D16 83032Y/47 =US 4163-417
Rectangular vessel for boiling beer wort - has heated base sloped up to central longitudinal ridge to improve wort circulation
STEINECKER A MASCH (STEI) 07.06.77-DT-725758 (23.07.76-DT-633281)
*+Q34 (07.08.79) *BE-856-971 +C12h-01*

A rectangular mash and wort tube has a bottom which slopes upwardly from the bases of opposite side walls. The angle of inclination is increased towards the centre of the tub. A heater is disposed below the bottom wall to create a spouting type boiling action in the tub.

Pref. rounded troughs are provided at the junction of the bottom and side walls. The bottom wall has two halves, each including two heater sections of different slopes. The useful volume and the heating effect of the tub are both increased. 22.7.77 as 818148 (6pp1376)

ROQF D16 90415Y/51 =US 4163-691
Insoluble particles with enzyme activity - by mixing an endocellular enzyme microbial cell slurry with gelatin, extruding into cold water and crosslinking the prod.
ROQUETTE FRERES SA 04.06.76-FR-017155
*A97 B04 (07.08.79) *DT2644-496 C07g-07/02 +C12k-01*

Insol. enzymatically active particles are prepd. by (i) forming an intimate mixt. of a slurry of microbial cells contg. glucose-isomerase as an endocellular enzyme at 55°C and 3-20 wt.% of gelatin as a jellifying agent; (ii) dividing the mixt. into threads by passing it through a die and into cold water to jellify the threads, the die being selected so that the threads obtd. have a dia. of 0.2-5mm; (iii) contacting the jellified threads with 0.5-5 wt.% of a crosslinking agent for the gelatin, based on the starting mass of the slurry; and (iv) cutting the crosslinked threads into pieces of length >0.2 and <10mm.

The particles are useful for filling columns, beds and other reaction vessels. 3.6.77 as 803244 (5pp990)

DUPO ★ D16 63032B/34 ★US 4163-692
Growing edible Fusarium yeast on low-phosphate medium - to facilitate removal of ribonucleic acid
DU PONT DE NEMOURS CO 25.04.77-US-790855
(07.08.79) C12b-01/08 C12d-13/06

An edible strain of Fusarium is grown on a carbohydrate substrate under aerobic conditions in a medium contg. phosphate at a concn. between the growth-limiting amt. and 5mM above this. The resulting mycelial mass is harvested and its RNA content reduced by enzyme activation.

Pref. RNA redn. is by keeping the mycelium in aq. suspension at pH 4.7-7 and 55-72°C for ≥1 sec. The pref. fungi are F. oxysporum, F. solani or esp. F. graminearum derived from ATCC 20344.

Theprod. is used as human food or food supplement, By controlling the phosphate concn. slightly less RNA is formed and is far more easily removed without loss of protein. The final RNA content is <0.5 wt. %. 25.4.77 as 790855 (3pp1251)

GREG/ D16 36693Y/21 =US 4163-714
Ultrafiltration membranes coupled to ligands - high capacity, rapid affinity chromatography material for sepg. e.g. enzymes
GREGOR H P 07.11.75-US-629939
*A88 B04 J01 (A11) (07.08.79) *DT2650-921 B01d-13 C07g-07*

A sepn. process comprises (a) forcing a soln. of a ligand through a homoporous homogeneous ultrafiltration membrane under a pressure of ≥10 psig. (b) removing excess liq. (c) forcing through the ligand-coupled membrane under a pressure of ≥10 psig. a soln. of a mixt. of substances of which ≥1 but not all has an affinity for the ligand, so that the one substance is selectively extracted from the mixt. and held as a complex by the ligand.

The membrane has an av. pore size of 15-200Å and the pores are on av. 3-10 times the dia. of the ligand substance complex. Pref. the membrane is cellulosic and is made receptive to the ligand by forcing cyanogen bromide as activating agent through the membrane. The ligand is pref. trypsin.

The system possesses high turnover rate and capacity compared with previous systems. 7.11.75 as 629939 (5pp393)

KIRI- D16 76734A/43 =US 4163-780
Antitumour substance KS-2-A prepd. by fermentation - stimulates natural defence system of host, and is effective against infectious diseases
KIRIN-SEAGRAM LTD 06.09.77-JA-106321 (30.03.77-JA-035944)
*B04 (07.08.79) *DT2813-353 A61k-35*

KS-2-A substance han an elemental analysis of 39.5% C,

. 5% H, 1. 1% N and traces (0. 4%) of ash a mol. wt. of 9 ,000+3000 by ultrafiltration, 7,000-9,000 (by equilibrium ensity gradient centrifugation or 8,000+3,000 (by fluores- ein polarisation, an appearance of white powder; a decom position point of 185°C, and given UV and IR spectra.

The pH of KS-2-A in aq. soln. is 7.25; it is insol. in htanol, acetone, n-hexane, n-butanol, phenol and other rganic solvents. It has specific optical rotation $[\alpha]_D^{25}$ +67. 5°+2 (in H_2O), (C=0. 452%). The substance has speci- ic homogenity, colour reaction sugar compsn. and amino acid compsn. KS-2-A is prepd. by culturing Daedalea lickinsii KSDD6(FERM-P No. 3993) or Lantinus edodes KSLE 7 (FERM-P No. 3994) or KSLE28 (FERM-P No. 4196) in medium contg. distillers solubles under aerobic conditio tions.

KS-2-A has antitumour activity by enhancing host defence function of living body. 30.3.78 as 891767 (11pp964)

BEAF ★ D16 63141B/34 ★ZA 7802-875

Stable freeze-dried Lowenstein-Jensen medium - which may be reconstituted for use in tuberculosis testing

BEATRICE FOODS CO 27.05.77-US-801329

B04 C03 (D13) (10.04.79) C12d-09

See Also

D13 J7 9021426 D13 J7 9021427 D21 EP ---3544
D21 EP ---3545 D25 DS 2831778

D17: SUGAR; STARCH

CORP D17 74688V/43 =DS 2417-639

Granular starch enzymatic solubilisation - with alpha-amylase in aq slurry and conversion to dextrose

CPC INTERNATIONAL INC 18.03.74-US-452154 (10.04.73-US-349899)

*(16.08.79) *DT2417-639 C12d-13/02 C13l-01/08*

Granular starch, e.g. maize starch, is converted to a soluble hydrolysate by stirring a mixt. of granular starch, water and alpha-amylase at pH 4-7 and at a temp. between the normal initial gelatinisation temp. and the actual gelatinisation temp. of the starch. The alpha-amylase is pref. obtd. from Bacillus licheniformis. 10.4.74 as 417639 (+28.1.74(3)-US-437101, 437264, 437452) (17pp068)

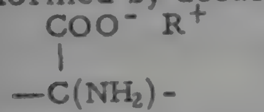
FARB ★ D17 61658B/34 ★DT 2806-019

Azulminic acid stabilised with carbonyl cpds. - contg. amino and carboxyl gps., useful as agricultural chemicals, complexing agents, etc.

BAYER AG 14.02.78-DT-806019

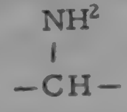
A26 C02 E13 (A25 A60) (16.08.79) C08f-04/02 C08f-08/28 C08f-138 C08g-61/04 C08g-73 C08k-05/34

Azulminic acid stabilised by condensn. with carbonyl cpds. (cpds. A) and contg. 0.5-55 wt.% ionic gps. of formula (I) and 0.5-15 wt.% amino gps. of formula (II) formed by decarboxylation are new.



$$\overset{COO^- \; R^+}{|}\atop{-C(NH_2)-}$$

(I)



$$\overset{NH^2}{|}\atop{-CH-}$$

(II)

(R = H, NH_4, equiv. of a protonated or quaternised N base, sulphonium cation or equiv. of a metal cation). Their acid addition salts, complexes and mixed prods. with additives are also new. Azulminic acid (B) is polymerised HCN. (A) are prepd. e.g. by condensing modified (B), contg. (I) and (II), with carbonyl cpds. in aq. medium.

(A) are useful for complexing metal salts, as catalyst supports; as catalysts in isocyanate chemistry (polyurethane prodn., formation of isocyanate trimers, dimers or carbodiimides); as ion exchangers (high F, content); as reactive fillers, flame retardants and stabilisers for plastics and as agricultural chemicals. 14.2.78 as 806019 (152pp1251).

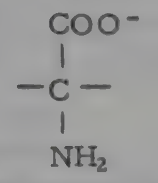
FARB ★ D17 61659B/34 ★DT 2806-020

Modified azulminic acid contg. amino and carboxyl gps. - useful as fillers and catalysts for polyurethane, intermediates for agricultural chemicals etc.

BAYER AG 14.02.78-DT-806020

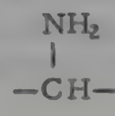
A26 C02 E13 (A25 A60) (16.08.79) C01c-03 C08g-61/04 C08g-73/06

Modified azulminic acid (cpds. A) contg. 0.5-55 wt.% ionic gps. of formula (I) and 0.5-15 wt.% amino gps. (II) prod. by decarboxylation are new.



$$\begin{matrix} COO^- \quad R^+ \\ | \\ -C- \\ | \\ NH_2 \end{matrix}$$

(I)



$$\begin{matrix} NH_2 \\ | \\ -CH- \end{matrix}$$

(II)

(R = H, NH_4, equiv. of a protonised or quaternised organic N base, sulphonium cation, or equiv. of a metal cation). The acid addition salts, complex cpds. and mixed prods. with additives are included. Azulminic acid (B) is polymerised HCN. (A) are made e.g. by treating (B) with acid, bases, water etc.

(A) are intermediates for stabilised (A) which are agricultural chemicals. They are also useful directly (i) as reactive fillers and catalysts in isocyanate chemistry (polyurethane prodn.); (ii) as flame protectants and/or fillers for plastics, and (iii) as agricultural chemicals esp. when they contain nutrient salts. 14.2.78 as 806020 (82pp1251).

FARB D17 61659B/34 =EP ---3-571

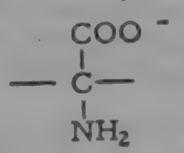
Modified azulminic acid contg. amino and carboxyl gps. - useful as fillers and catalysts for polyurethane, intermediates for agricultural chemicals etc.

BAYER AG 14.02.78-DT-806020

*A26 C02 E13 (A25 A60) (22.08.79) *DT2806-020 C08g-73 +C08g-61/04*

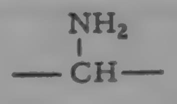
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Modified azulmic acid (cpds. A) contng. 0.5-55 wt.% ionic gps. of formula (F_1) and 0.5-15 wt.% amino gps. (F_2) formed by decarboxylation are new.



$$\begin{matrix} COO^- \quad R^+ \\ | \\ -C- \\ | \\ NH_2 \end{matrix}$$

(F_1)



$$\begin{matrix} NH_2 \\ | \\ -CH- \end{matrix}$$

(F_2)

(R = H, NH_2, equiv. of a protonised or quaternised organic N base, sulphonium cation, or equiv. of a metal cation). The acid addition salts, complex cpds. and mixed prods. with additives are included. (Azulmic acid (B) is polymerised HCN).

(A) are intermediates for stabilised (A) described in DT 2806097 which are agricultural chemicals. They are also useful directly (i) as reactive fillers and catalysts in isocyanate chemistry (polyurethane prodn.); (ii) as flame protectants and/or fillers for plastics, and (iii) as agricultural chemicals esp. when they contain nutrient salts.

(A) have higher swelling power than (B) and are readily soluble in 0.5-1 N aq. KOH or NaOH.

2.2.79 as 100303 (82pp1251).

(G) ISR: GB-845363.

FARB D17 61658B/34 =EP ---3-585

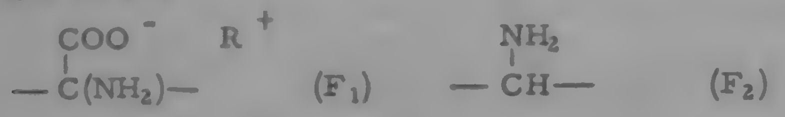
Azulminic acid stabilised with carbonyl cpds. - contg. amino and carboxyl gps., useful as agricultural chemicals, complexing agents, etc.

BAYER AG 14 02 78-DT 806019

*A26 C02 E13 (A25 A60) (22.08.79) *DT2806-019 C081-79 +C08g-61/04 C08g-73*

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Azulmic acid stabilised by condensn. with carbonyl cpds. (cpds. A) and contg. 0.5-55 wt.% ionic gps. of formula (F_1) and 0.5-15 wt.% amino gps. (F_2) formed by decarboxylation is new.



$$\overset{\mathrm{COO^{-}}\quad \mathrm{R^{+}}}{\overset{|}{-\mathrm{C}(\mathrm{NH_2})-}}\qquad (F_1)\qquad \overset{\mathrm{NH_2}}{\overset{|}{-\mathrm{CH}-}}\qquad (F_2)$$

(R = H, NH_4, equiv. of a protonated or quaternised N base, sulphonium cation or equiv. of a metal cation). Their acid addition salts, complexes and mixed prods. with additives are also new. Azulmic acid (B) is polymerised HCN.

(A) are useful for complexing metal salts; as catalyst supports; as catalysts in isocyanate chemistry (polyurethane prodn., formation of isocyanate trimers, dimers or carbodiimides); as ion exchangers (high F_1 content); as reactive fillers, flame retardants and stabilisers for plastics and (DT 2806097) as agricultural chemicals.

Compared with (B), (A) have higher thermal and hydrolytic stability against HCN loss and higher swelling power.

5.2.79 as 100331 (152pp1251).
(G) ISR: GB-845363.

KDFO= ★ D17 62954B/34 ★SU -632-953

Sugar soln. saturator - has an annular rotor with perforated side surrounded by molasses receiver

KRASD FOOD IND RES (KDPO=) 29.03.77-SU-468490

R16 (16.11.78) C13f-01/02 G01n-33/02

Intensified satn. of juice in sugar prodn. is due to the annular rotor inside the thermostat controlled air chamber. The rotor cavity holds the sugar crystals and the circulated molasses, and the perforated side is surrounded by the ring receiver of molasses. Above the rotor is the conical trough featuring a central hole for molasses discharging into the rotor, the molasses from the ring receiver fed to it by tubes.

Lyusyi N.A., Daishev M.I., Silvanyuk I.I. et al. Bul. 42/15.11.78 29.3.77 as 468490 (3pp89)

D18: SKINS; HIDES; LEATHER; TOBACCO

CECH/ ★ D18 B/34 ★CS 7805-102

Cutting roller for leather and hides processing

CECH J 03.08.78-CS-005102

(31.05.79) C14b-17/02

TABA- D18 54814U/38 =DS 2307-884

Tobacco substitute - contg nitrogen donor and food industry waste materials

FAB TABAC REUNIES (TAMG) 02.03.72-LU-064889

*A97 P15 (16.08.79) *DT2307-884 A24b-15/05*

A smoke prod. which is a mild smoke with no burning, irritating and bitter components, contains as vegetable filler a pulp of low cellulose content contg. several of the following:- chaff and straw of wheat, oats or other members of the Gramineae species, coffee bean husks and shell or fibres of coconuts, cocoanuts or similar nuts.

The prod. contains for each 100 pts. dry wt. vegetable filler 10-45 pts. active material (e.g. crude molasses), 10-45 pts. N-donor, 10-60 pts. structure former and 20-90 pts. usual additives, e.g. softener, perfume, dye and combustion improver. 17.2.73 as 307884 (6pp068)

FARH D18 27532Y/16 =DS 2644-056

Cigarette filter contg. modified paper - which is impregnated with isocyanate or fatty acid or coated with insolubilised cellulose ether BE080477)

HOECHST AG 10.10.75-CH-013171

*A88 F09 P15 (A11 A82) (16.08.79) *DT2644-056 A24b-15/02*

Crosslinked or otherwise modified cellulose ethers brought onto paper are used as cigaratte filters with high absorbtion for tar and nicotine. The cellulose is made soluble in water by etherification alone and by crosslinking or other modification made insoluble for the most part. Paper is pref. covered with the modified cellulose ether on only one side. 30.9.76 as 644056 Add to 2512511 Div.in 2660142 (3pp068)

BADI ★ D18 61576B/34 ★DS 2856-628

Dyeing of grain leather with anionic dyes - in presence of surfactant mixt. contg. ethylene oxide adducts with an alcohol and an amine

BASF AG 29.12.78-DT-856628

A97 (A25) (16.08.79) D06p-01/60 D06p-03/32

Dyeing of grain leather uses anionic dyes in presence of a surfactant combination of (a) an adduct of a 9-24 C aliphatic alcohol with 3-120 mols. ethylene oxide, and (b) an adduct of an 8-20 C amine with 6-80 mols. ethylene oxide. Wt. ratio of a : b is 0.25-4 : 1 and total surfactant is 0.3-3 wt. % based on the leather.

Improved levelness and penetration of dye is achieved on cationic-tanned leather, and greater depth of colour on anionic-tanned or after-tanned leather. 29.12.78 as 856628 (4pp195)

BADI ★ D18 61792B/34 ★EP ---3-516

Stabilising hydrazine crosslinking agents - for aq. carbonyl gp. contg. copolymer dispersion, by adding heavy metal ion to prevent hydrazine formation, used esp. for coatings

BASF AG 26.01.78-DT-803258

A60 E16 G02 (A82) (22.08.79) C08l-29/12 C08l-101/06 C14c-11

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

An aq. carbonyl gp.-contg. copolymer dispersion contg. 0.02-1 mol organic hydrazine deriv. (I) with ≥2 hydrazine gps. per mol carbonyl gp. also contains 0.0002-0.02 mol (per mol (I)) of heavy metal ions (II).

(I) does not form toxic hydrazine during storage due to (II) and (II) does not interfere with the crosslinking reaction (accelerates the reaction). Coatings do not have reduced aging or light resistance and films formed from the dispersions are so strongly crosslinked at room temp. that they are practically insoluble in solvents and only swell a small amt. The dispersions may be used in adhesives, hydraulic binders, binders for paper and nonwoven fabric coatings and coatings.

19.1.79 as 100168 (21pp952).
(G) ISR: GB-726463; GB-654856; US4016127; US2876211; FR1411539.

MONT/ ★ D18 61882B/34 ★FR 2408-438

Machine for figuring leather sheet with embossing and perforations - synchronises intermittent advance of sheet with reciprocation of tool holder

MONTELS F 09.11.77-FR-034069

P62 (13.07.79) B26f-01/04 C14b-01/56 C14b-05/02

The machine comprises a vertical framework in which a power-driven tool holder is reciprocated vertically above a horizontal work table. The improvement comprises a conveyor which moves forward intermittently over the rk table. The movement of the conveyor is mechanically ordinated with reciprocation of the tool holder.

The tool holder is pref. reciprocated by a motor-driven ankshaft. An eccentric on the crankshaft pref. actuates conveyor via a pawl and ratched transmission, the nveyor advancing on each up-stroke of the tool holder. e conveyor pref. takes the form of a band of paper awn from a supply reel by spring grip rollers intermittly rotated by the ratchet transmission.

This is a simple, robust machine capable of perforat- several thicknesses of skins simultaneously. Figuring precisely located by virtue of the positive, mechanical kage between the tool holder motion and that of the conyor. 9.11.77 as 034069 (14pp448).

TA D18 16743Y/10 =GB 1550-835
ocessing cut tobacco stalks and leaves - by passage through lumn fluidised by air, steam and water
BRIT AMER TOBACCO LTD 18.08.75-GB-034299
*P15 (22.08.79) *DT2636-311 A24b-03/18*

obacco is treated with a liquid or vapour by maintaining columnar bed of cut tobacco in a fluidised state in a amber.

Pref. water is sprayed co-current with the fluidizing r. Pref. steam is introduced through a diffuser at the amber bottom. The tobacco pref. passes through the cha amber in a continuous flow counter to the fluidizing air.

The tobacco is pref. first treated with water and then eam and air. Nicotine can be removed. 29.7.76 (7pp)

DLE- ★ D18 61936B/34 ★GB 2014-078
ather punching press with hydraulically operated punches - ounted on crosshead with alignment maintaining linkage
OFF MECC FR POLETTO 09.02.78-IT-020100
F07 P62 (22.08.79) B26f-01/38

he crosshead is moved vertically by ⩾2 prim. rams hich are interlinked and connected to the crosshead by a ystem of rack and pinion mechanisms. This linkage main tains the crosshead aligned with the bed of the appts. hile the head is moved towards it during a punching opertion.

When the crosshead has brought the punches into contct with a workpiece resting in the bed to punch rams are ctivated to cut the workpiece. Pref. the punch rams are rimed during descent of the crosshead so that they can e advanced rapidly to make their cut,

The appts. cuts skins, leather, fabric and other laminar orkpieces resting on the bed. The linkage on the crossead drive ensures that the punches are aligned with the ed when they contact it. 7.2.79 as 004334(7pp295)

IRS/ ★ D18 62843B/34 ★SU -632-703
yaluronidase enzyme extn. from bull sperm - includes low temp. actionation of aq. sodium chloride extract with ammonium ulphate, dialysis and lyophilisation
KIRSE V KH 11.04.77-SU-471215
B04 C03 (25.11.78) C07g-07/02

Iyalurohidase enzyme regulating glycosaminoglycam catbolism in a living body, is used in animal husbandry, ish farming, leather and fur inds., medicine and labortory practice.

The enzyme is prepd. in higher yield and of increased ctivity by extracting bulls sperm which is unsuitable for rtificial insemination with sodium chloride aq. soln. at pH 5.8-6.3. The extract is fractionated by treatment with ammonium sulphate to 60-65% satn. at 0-5°C followed by dialysis and two-stage fractionation with ammonium sulphate at 0-5°C, first adding ammonium sulphate soln. to 38-45% satn., then adding ammonium sulphate to obtain 65-70% satn. The prod. is then lyophilised.

Kirse V.Kh., Strukova G.N., Marnauza A.A. et al. Bul. 42/15.11.78 11.4.77 as 471215 (3pp938)

TRIS/ ★ D18 62868B/34 ★SU -632-728
Hide processing before tanning - includes using sodium naphthenate to reduce leather water permeability and tanning agent loss
TRISHINA L P 20.12.76-SU-430579
E12 (25.11.78) C14c-01 C14c-03/06

Leather is treated prior to tanning by treatment with Na naphthenate for 20-30 mins.

The method gives water insoluble salts during subsequent tanning which fill and hydrophobise leather and reduces the cost of the subsequent tanning process using smaller amts. of mineral tanning agent.

In a typical process, the hide is washed and treated in a bath of liq. coefft. 1 contg. 3 wt.% Na naphthenate on hide wt.

Trishina L.P., Maradzhapov I.K., Bul. 42/15.11.78 20.12.76 as 430579 (2pp314)

BRTA D18 28848A/16 #US 4163-452
Filter for nitric oxide sepn. from tobacco smoke - contains carbon granules contg. piperidine and/or imidazole nitrogen oxide cpds.
BRIT AMER TOBACCO LTD 09.11.76-GB-046592 (01.12.77-US-856344)
*A88 E13 P15 (07.08.79) *BE-861-704 A24b-15/27 B01d-27/02*

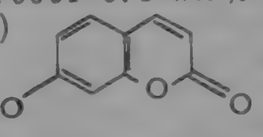
A tobacco smoke filter or filter material contains granules of porous activated carbon to which 4-oxo-2,2,6,6-tetramethylpiperidino-oxy and/or 1-nitronyl-3-oxyl-4,4,5,5-tetramethyl-2-phenyldihydroimidazole has/have been applied, the carbon pref. being loaded with 0.5-25 (1-15) wt.% of the nitroxide(s). In a sectional filter, a bed of the treated carbon may form one section and ⩾1 other section may be of cellulose acetate.

A considerably filtration efficiency for NO is achieved. 1.12.77 as 856344 (3pp990)

LIGG- ★ D18 62983B/34 ★US 4163-453
Tobacco prods. contg. 7-hydrocarbyl:oxy-1,2 benzopyrone(s) - imparting sweet vanilla, hay-like flavour
LIGGETT GROUP INC 12.10.76-US-731382
E13 P15 (07.08.79) A24b-03/12 A24b-15/04

The flavour of smoking tobacco is improved by adding 0.0001-0.1 wt.% of ⩾1 cpd. of formula (I) (where R is 1-7C alkyl or alkenyl, or cycloaliphatic or aromatic radical of <8C).

(I)



(I) impart sweet, vanilla-like, new-mown hay like aroma to tobacco prods. 12.10.76 as 731382 (4pp955)

See Also

D23 GB 1550801 D23 US 4163737

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

OREA D21 43871T/27 =DS 2164-166
Aminated gamma dialdehydes - used for colouring skin or strengthening
L'OREAL SA 24.12.70-LU-062317
*E19 +P34 (16.08.79) *BE-777-200 A61k-07*

Cosmetic agent contains ≥1 amino-α-dialdehyde of formula HO-CH(CHO)CH(CHO)NR_1R_2 (where R_1 and R_2 each are H, 1-12C alkyl, hydroxyalkyl, cycloalkyl, aryl, alkylaryl, 3-(2,5-dialkoxy-4-hydroxy)- tetrahydrofuryl or β-N- [(2,5-dialkoxy-4 hydroxy)-3-tetrahydrofuryl] - aminoethyl or R_1 and R_2 form a heterocyclic ring with the N atom) and/or their quaternary ammonium salts.

The cosmetic agent may be used as hair conditioner and/or to dye skin. 23.12.71 as 164166 (14pp068)

OREA D21 17246X/10 =DS 2535-777
Polyether cosmetic oil binders - prepd. by alkylene oxide or glycidyl ether or ester poly-addition to alcohols or acids
L'OREAL SA 12.08.74-LU-070720
*A96 E14 (E15) (16.08.79) *DT2535-777 A61k-07*

Cosmetic compositions are prepd. with one or more polyethers of formula $RX(CHZ_1CHZ_2O)_nA$, (0.15-70 wt.%), as binding agents, with the usual cosmetic components. In the formula, R is 7-20 C alkyl or lanolinyl; one of the gps. Z_1 and Z_2 is CH_2YR' and the other is H, where Y is CH_2, O or COO, and R′ is 3-20 C alkyl, opt. with up to 20% of the alkyls having OH substits; X is O or COO; n is 1-10; and A is H, or if Y is COO, then A is R′ COO.

These polyethers avoid the use of natural oil which tend to become degraded. 11.8.75 as 535777 Div.in 2560098 (16pp047)

FREU ★ D21 61583B/34 ★DT 2804-024
Hair- and skin-care cosmetic - contains water-soluble natural elastin and/or enzymatically treated water-solubilised elastin hydrolysate
FREUDENBERG, CARL FA 31.01.78-DT-804024
A96 (16.08.79) A61k-07

Active ingredient for cosmetics consists of natural elastin soluble in weakly acidified water and/or elastin hydrolysate water-solubilised by enzymatic treatment and opt. contg. small quantities of water-soluble collagen.

The elastin prods. can be used for (i) hair-care, e.g. as shampoos, cures, rinses and conditioners, and (ii) skin-care, esp. for aged and damaged skin. The elastin prod. is instantly absorbed by skin or hair; softens and elasticises the skin ; and reduces dandruff and split hair-end formation. Its weakly acid nature prevents strong swelling of hair and gloss is retained. Degreasing is also prevented. Compsns. are easily rinsed out and leave no soap residues, even when used with sea water. The elastin prods. are easily degraded biologically, resist high temps. and do not decompose at pH 3.5-12. 31.1.78 as 804024 (11pp200).

WIEL- ★ D21 61613B/34 ★DT 2805-433
Dental device for impressions or holding crowns during insertion - is formed by PVC foil elastic cushion filled with aq. starch soln.
FA WIELAND T 09.02.78-DT-805433
A96 P32 (16.08.79) A61c-05/08 A61c-09 A61c-13/22

Dental device for obtaining dental impressions to mfr. dentures, single crowns, etc., is formed by an elastic, flat compressive cushion which can be inserted between the teeth. The cushion is made from thermo-welded PVC foil to corresp. to the configuration of dentures and filled with an aq. starch soln..

The device may be associated with auxiliaries for the impression and be provided with a handle. 9.2.78 as 805433 (12pp036).

FARH ★ D21 61669B/34 ★DT 2806-098
Thickening cosmetic, pharmaceutical compsns. etc. - with crosslinked saponified polyacrylamide polymer (BE 14.8.79)
HOECHST AG 14.02.78-DT-806098
A96 B07 (A14) (16.08.79) A61k-09 B01j-01/24

Viscosity of cosmetic, pharmaceutical and industrial compsns. is increased by using as thickener a crosslinked polymer (I) which comprises (k - p) mole% - CH_2.CH-($CONHR_1$)-, p mole% -CH_2.CH(COOM)-, 0-45 mole% -CHR_2-CXR_3- and 0.1-20 mole% crosslinker.

In the formulae R_1 = H and/or CH_2OH in any ratio. R_2 and R_3 = H, or one may also be CH_3. X = CN, 1-8C alkoxy carbonyl (opt. substd. by OH), 1-6C alkanoyloxy, 1-8C alkanoylamino or a pyrrolidone, piperidone or caprolactam ring), phenyl or tri(1-2C) alkoxysilyl. M = alkali meta cation, k = 99.9 to 50 and p = 5 to k.

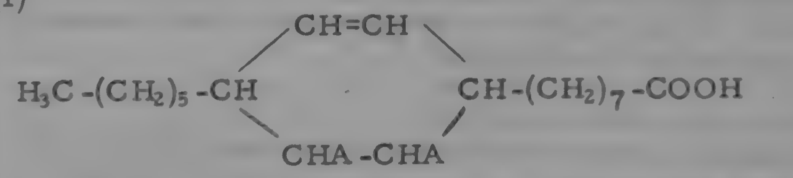
(I) is made by reacting (mole% of all monomers) k% acrylamide, 0-45 mole% HCR_2 = CXR_3 and 0.1-20% cross-linker in presence of a radical initiator in a water-miscible alcohol. The resulting dispersion is warmed at 30-150°C with p moles MOH to saponify amide gps. then the prod. (a) recovered or (b) after removal of NH_3 methylolated wit 0 to (k-p) mole% paraformaldehyde at 10°C to b.pt. of the lower alkanol solvent.

Used for thickening e.g. skin-care compsns., cosmetics, toothpastes, pharmaceutical tablets, ointments or gels, cleaning compsn. etc. .

(I) have very high swelling power and unlike known polymers prepn. is quick and, as subsequent neutralisatio is not necessary, there is no risk that free residual acid gps. will remain. 14.2.78 as 806098 (31pp1251).

CIBA ★ D21 61734B/34 ★DT 2904-395
Anionic sulphonated polyester dispersant prepn. - from glycol, unsatd. and opt. satd. di:carboxylic acid, cyclohexene deriv. and sulphite
CIBA GEIGY AG 09.02.78-CH-001451
A23 C03 F06 (A87 A96 A97) (16.08.79) C08g-63/68 C09b-67

Anionic, sulphonated polyesters (A) are prepd. by reacting at least (a) one 2-8C n-alkanediol, cyclohexanediol or 4-30C polyalkylene glycol, (b) one α, β-ethylenically unsatd., aliphatic 4-5C dicarboxylic acid, its anhydride or 1-4C alkyl ester, (c) a dicarboxylic acid of formula (I)



(I)

(where one A is H and the other is COOH), (d) opt. a satd. aliphatic 6-10 C dicarboxylic acid, its anhydride or 1-4C alkyl ester, and (e) a water-soluble H_2SO_3 deriv. or a salt of $HOCH_2SO_3H$.

(A) are dispersants for the prepn. of stable, aq. dispersions, e.g. of dyes, cosmetics, pesticides, optical brighteners. The use of (A)-contg. dye dispersions for dyeing textiles is claimed. (A) can also be used as levelling and retarding agents for dyeing processes. (A)-contg. dye dispersions are stable for >2 months. 6.2.79 as 904395 (27pp200).

FRRR D21 58294B/32 =EP —3-544
Anticariogenic foods and pharmaceuticals - for oral or dental hygiene, contain lactate dehydrogenase (PT 24.7.79)
FERRERO OHG 31.01.78-DT-804138
*B06 (D16) (22.08.79) *DT2804-138 A23g-03 A23k-01/16 A23l-01/34 A61k-07/28*
D/S: E(BE, FR, IT, LU).

Anticariogenic sugar-contg. foodstuffs and pharmaceutica compsns. (esp. for oral and dental hygiene), both with a low H_2O content (0.1-2 %), contain lactate dehydrogenase (LDH).

29.1.79 as 100248 (25pp367).

(G) ISR: FR2104349; GB1272135; 1 Journal Reference.

FRRR D21 58290B/32 =EP ---3-545

Anticariogenic foods and pharmaceuticals - contg. lactate dehydrogenase and sucrose inverting enzyme esp. fructosidase or glucosidase (PT 24.4.79)

FERRERO OHG 31.01.78-DT-804093

*B06 (D16) (22.08.79) *DT2804-093 A23g-03 A23k-01/16 A23l-01/34 A61k-07/28*

D/S: E(BE, FR, IT, LU).

Anticariogenic sugar-contg. foodstuffs and pharmaceutical compsns. (esp. for oral and dental hygiene), both with a low H_2O content (0.1-2%), contain lactate dehydrogenase (LDH) and a sucrose-inverting enzyme (pref. β-fructosidase or α-glucosidase).

29.1.79 as 100249 (25pp367).

(G) ISR: FR2064147; FR2104349; DE2027019; GB1272135 1 Journal Reference.

TANA/ ★ D21 61825B/34 ★EP ---3-638

Coating compsn. for marking occluding teeth contact points - comprising a liq. glycol and colouring and thickening agents

TANAKA A 19.01.78-US-870655

A96 E17 G02 (22.08.79) A61k-05 C09d-05

D/S: E(BE, CH, DT, FR, GB, IT, NL).

A coating compsn. in paste form comprises 50-90 wt.% (1) a liq. glycol which has n OH gps. and n to n + 2 C atoms, where n is 2-10, or which has the formula $HO(C_2H_4O)_aH$ (a = 3-20) or $HO(C_3H_6O)_bH$ (b = 2-15); 0.05-3 wt.% (2) a colouring agent; and 10-50 wt.% (3) a thickening agent.

(3) is (A) a solid glycol ester with ≥1 free OH gp. derived from a 12-22C fatty acid and a glycol having n OH gps. and n to n + 2 C atoms (n = 2-10) or having the formula $HO(C_2H_4)_dH$ (d = 3-27) or $HO(C_3H_6O)_gH$ (g = 2-20); or an ethoxylated ester obtd. from 2-30 moles ethylene oxide and 1 mole of the glycol ester; or (B) a mixt. of 3-50 wt. % (A) and 1-30 wt.% of a 12-22C fatty acid, 1-5 wt.% of an ester of a 10-22 fatty acid and 1-4C aliphatic monohydroxy alcohol, 0.1-5 wt.% of a 10-30C fatty alcohol, 0.3-2 wt.% of an ethoxylated fatty alcohol obtd. from 1 mole 10-30C fatty alcohol and 2-30 moles ethylene oxide, 1-10 wt.% an aliphatic hydrocarbon oil or wax or 1-10 wt.% a 4-9C alkanolamine with a sec. or tert. amine gp. and 2-3C alkanol moieties, based on the compsn.

(3) can also be (C) a mixt. of 7-40 wt.% (based on the compsn.) of a solid 12-22C fatty acid and a 4-9C alkanolamine with a sec. or tert. amine gp. and 2-3C alkanol moieties at a concn. which is 0.1-1.0 of that needed to neutralise the fatty acid.

The compsn. is useful for marking accurately the contact points on the occlusal surface of a dental restorative or natural tooth and for evaluating the mode of contact between occluding teeth. It is removable from the occlusal surface by a water rinse.

12.1.79 as 300052 (28pp558).

(E) ISR: - 1 Journal Reference.

OREA D21 06349A/04 =GB 1550-764

Polyether-poly:ol surfactants with sequenced structure - for cosmetic and pharmaceutical compsns.

L'OREAL SA 16.07.76-LU-075405

*A25 B04 (A97 B07) (22.08.79) *BE-856-853 A61k-07/13 +C08g-65/26*

Polyhydroxylic block oligomer comprises ≥1 cpd. of formula HO- [$-C_2H_3(CH_2OH)$ -]$_n$ - [$-C_2H_3(CH_2ZR)$ O-]$_m$ - [$C_2H_3(CH_2OH)O$]$_{n'}$H (I).

In (I) R is 4-18C n-alkyl; Z is -N(R_1)-, - N (R_1)H-V , -N(R_1)(O)-, -N(R_1)(O H)-V , - N (R_1)(CH_2COO)-, -N (R_1)(R_2)-Y or -S [-$(O)_a$] -; R_1 and R_2 are each (m)ethyl or hydroxyethyl; Y is an anion; H R_1 N V and R_1NOH V denote an (in)organic salt of an amine oxide respectively; a is O or 1; [$C_2H_3(CH_2OH)O$] is [CH_2-C(CH_2OH)- O] or [C(CH_2OH) H-CH_2-O] ; -[$C_2H_3(CH_2ZR)O$] is [CH_2-CH(CH_2 ZR) - O] or [C(CH_2ZR)H-CH_2-O] ; m, n and n' have values such that, in a cpd. m is an integer 2-10, n is integer 2-25; n' is 0 or integer 2-25, and, in a mixt. of cpds., are value of m is (non-)integral number 2-10, are value of n is (non-)integral number 2-25, all values of n' are 0 or the ave. value of n' is a (non-) integral number, 2-25, and the ave. value n + n' is (non-) integral number 2-25.

Prods. are incorporated in cosmetic and pharmaceutical compsns., partic. cosmetic compsns. for the care of the skin, nails and hair. 15.7.77 as 029937(17pp936)

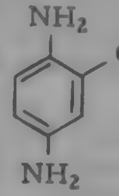
OREA D21 15862A/09 =GB 1551-198

Substd. alkoxy para-phenylene di:amine - used as oxidn. bases in hair dyeing compsns.

L'OREAL SA 17.09.76-FR-027957

*E14 (22.08.79) *BE-857-616 A61k-07/13 C07c-91/44 C07c-103/44 C07c-127/19 D06p-03/08*

Para-phenylenediamines of formula (I) and acid addn. salts are claimed. In (I), Z is hydroxyalkyl, alkoxyalkyl, acylaminoalkyl, carbalkoxyaminoalkyl, mesylaminoalkyl, ureidoalkyl, aminoalkyl, or (di)alkylaminoalkyl. Pref. the alkyl gps. are ethyl. A specifically claimed cpd. is (2, 5-diamino)-phenoxyethanol.



(I)

(I) are partic. suitable for use in compsns. (aq. solns) used for dyeing keratinic fibres, esp. human hair. Pref. these compsns. contain 0.03-6 wt.% (I). (I) may be used as oxidn. bases in the presenceof couplers e.g. metadiphenols. (I) give deep colouration, suchas chestnut, brown, grey or black, in an alkaline oxidising medium, esp. in the presence of H_2O_2. 12.9.77 as 037973(16pp992)

LIOC ★ D21 62028B/34 ★J5 4086-499

Calcium phosphate-coated gypsum prodn. - by adding gypsum to aq. soln. of ortho and condensed phosphate(s), used in tooth-paste and waterproof board mfr.

LION DENTIFRICE KK 22.12.77-JA-154990

E33 L02 (10.07.79) A61k-07/16 C01f-11/46 C04f-11/10

The method comprises (a) mixing an orthophosphate with a condensed phosphate at a wt. ratio of 2:8~9.5 : 0.5 and forming an aq. soln. of pH 7-10.5, (b) reacting gypsum with the phosphates in the aq. soln. to produce calcium phosphate, and (c) depositing the calcium phosphate on the surface of the gypsum.

In an example, ammonium hydrogen phosphate and sodium pyrophosphate were reacted in aq. soln. with type-11 gypsum. 22.12.77 as 154990 (9pp51)

LIOY ★ D21 62101B/34 ★J5 4086-629

Cosmetic base for shampoo, hair rinse etc. - comprises cation-modified starch contg. quat. ammonium nitrogen

LION FAT & OIL KK 20.12.77-JA-153417

A96 (A11) (10.07.79) A61k-07

Cosmetic base comprises a cation-modified starch (II) contg. 1-5 wt. % of quat. ammonium nitrogen, which is obtd. by reacting starch (III) with glycidyl trialkyl ammonium salt (IV) or 3-halo-2hydroxy propyl trialkyl ammonium salt (V).

Base has affinity for carboxyl gps. in skin and hair protein. Potato starch, wheat starch, corn starch, etc. can be used. (IV) is e.g. glycidyl trimethyl ammonium chloride, glycidyl triethyl ammonium chloride, glycidyl dimethyl ethyl ammonium chloride, etc. (V) is e.g. 3-chloro-2-hydroxy propyl triethyl ammonium chloride, etc. 20.12.77 as 153417 (10pp42)

POKK ★ D21 62102B/34 ★J5 4086-630

Compsn. similar to skin fats, for treating roughness, cracks etc. - comprising higher fatty acid glyceride(s), wax ester mixt., free fatty acids, squalene, and cholesterol

POLA KASEI KOGYO KK 31.10.77-JA-130391

E17 (E15) (10.07.79) A61k-07

A compsn. (I) similar to fat in skin, composed of (i) 20-50 wt. % glycerides of higher fatty acid mixt. comprising myristic acid (II), palmitic acid (III), palmitoleic acid (IV), oleic acid (V) and linoleic acid (VI) ((II):(III):(IV):(V):(VI)= 11.1:41.0:22.7:40.7:4.5), (ii) 15-30 wt. % wax ester mixt. composed of oleyl stearate, oleyl orate and 2-hexyl decanyl-2-octyl decanate, (iii) 8-25 wt. % mixed free fatty acid (VII), (iv) 5-15 wt. % squalene and (v) 2-5 wt. % cholesterol (VIII).

(I) is used as a skin-conditioner and has a medical effect on roughness of skin, cracks in the skin, etc. When (I) is spread on skin and a wet-film is formed which conforms to the skin well.

Suitably (VII) is myristic acid, palmitic acid, palmitoleic acid, heptadecanic acid, stearic acid or oleic acid and (VIII) is cholesterol, cholesterol palmitate or cholesterol oleate. 31. 10. 77 as 130391 (7pp42)

POKK ★ D21 62103B/34 ★J5 4086-633

Cosmetics contg. colour powder - prepd. by dispersing inorganic powder in water, adding metal cpd. soln. and alkali and sepg. the solid

POLA KASEI KOGYO KK 21.12.77-JA-154208

(10.07.79) A61k-07/02

Cosmetics (I) contg. colour powder (II) are prepared by (i) dispersion of inorganic powder (III) in water with or without acid, (ii) addition of metal compound (IV)-solution to the dispersion, (iii) addition of alkali under agitation until pH reaches 7.5-13.0, for deposition of metal hydroxide on surface of (III), (iv) separation of the solid and (v) washing and drying of the solid.

(III) is kaolin, kaolinite, montmorillonite, bentonite, zeolite, diatomaceous earth, calcium silicate, magnesium silicate, etc. (IV/ is cobalt carbonate, iron carbonate, chromium carbonate, nickel carbonate, copper sulphate, nickel nitrate, iron hydroxide, chromium hydroxide, etc. The particle size of (III) should be 0.2-50 µ. (II) may be calcined at 500-1200°C for 1-24 hrs., to obtain more stabilised powder.

Unevenness of colour caused by several kinds of powders having different crystalline forms, densities, particle distributions, etc. is reduced. 21.12.77 as 154208(6pp42)

POKK ★ D21 62104B/34 ★J5 4086-634

Cosmetics contg. colour powder - are prepd. by dispersing organic powder in water, adding metal cpd. soln., adding alkali and sepg. the solids

POLA KASEI KOGYO KK 22.12.77-JA-154947

A96 (10.07.79) A61k-07/02

Cosmetics (I) contg. colour powder (II) are prepared by (i) dispersion of organic powder (III) in water with or without acid, (ii) addition of metal compound (IV)-solution to the dispersion, (iii) addition of alkali under agitation until pH reaches 7.5-13.0, for deposition of metal hydroxide on surface of (III), (iv) separation of the solid and (v) washing and drying of the solid.

(III) is powders of silk, dextran sulphate, water-insoluble collagen, cellulose, ethyl cellulose, propyl cellulose, nylon, starch, starch-derivatives, etc. (IV) is cobalt carbonate, iron carbonate, chromium carbonate, nickel carbonate, copper sulphate, nickel nitrate, iron hydroxide, chromium hydroxide, etc. The particle size of (III) should be 0.2-50 µ.

Unevenness of colour caused by several kinds of powders having different crystalline forms, densities, particle distributions, etc. is reduced. 22.12.77 as 154947 (6pp42)

AJIN ★ D21 62105B/34 ★J5 4086-635

Permanent wave compsn. - prepd. by adding basic aminoacid to conventional permanent wave liq. contg. cysteine

AJINOMOTO KK (SWAL-) 22.12.77-JA-154720

E16 (10.07.79) A61k-07/09

Permanent wave compsn. is prepd. by adjusting the pH of a conventional compsn. contg. cysteine to 7.0-10.0, with the addn. of basic aminoacid (III). Pref. the compsn. prepd. by first adjusting the pH to 7.0-9.0 with the addn. of (III) and then adjusting the pH to 9.2-9.7 with the addn. of ammonia, ammonium carbonate or alcohol amine.

(III) is esp. lysine, oxy-lysine, alginine, hystidine or ornithine. The content of cysteine is pref. 2-15 wt.%. Compsn. obtd. has improved stability due to the absence of cysteine hydrochlorate. 22.12.77 as 154720(4pp42)

KANK- ★ D21 62212B/34 ★J5 4087-677

Air purificn. appts. for domestic use - comprises filter assembly with several filter cartridges, blower housing, a funnel-shaped guide and a blower

KANKYO KAGAKU KENKY 23.12.77-JA-156107

P34 (12.07.79) A61l-09 B01d-53/02

An appts. for purifying air as it enters a room, comprises a filter assembly including a casing, several filter cartridges stacked in the casing, a blower housing detachably secured to the filter casing, and including a funnel-shaped guide, and a blower for drawing air through the stacked filter beds and through the guide. The first cartridge is packed with zeolite, the second with pumice stone powder, the third with basic active carbon, the fourth with acid active carbon, and the fifth cartridge with silver coated active carbon.

Dust, mist, soot and other smelly and harmful components are removed from the air before it enters the room. 23.12.77 as 156107 (9pp47)

ITOS- ★ D21 62324B/34 ★J5 4088-215

Branched alcohol ester prepn. for cosmetic material - by polycondensation of divalent alcohol in presence of a catalyst, producing branched alcohol which is then esterified

ITO SEIYU KK (KOBA-) 20.12.77-JA-153090

E17 (13.07.79) A61k-07 B01j-23/04 C07c-69/33

A branched alcohol ester of general formula $C_xH_{n(2m-1)+1}(OH)_{n-1+1}(OOCR)$, where m is 4-22, n is 2-8, l is 1-9, x is 18-54, and R is an 8-22C alkyl gp., is prepd. by subjecting a divalent alcohol of general formula $C_mH_{2m}(OH)_2$ to polycondensation in the presence of a Garbet reaction catalyst to prepare a branched alcohol of general formula $C_xH_{n(2m-1)+1}(OH)_{n+1}$ followed by its esterification. A cosmetic material is incorporated with ≥ 1 species of branched alcohol ester.

The branched alcohol ester has increased lipophilic properties, less irritation, high polarity and high viscosity, which are good properties in cosmetic oil. 20.12.77 as 153090 (9pp75)

NIHS ★ D21 62440B/34 ★J5 4088-879

Self-emulsification oil compsns. - contain poly:hydric alcohol (deriv.), oil and surfactant in amts. to give specified specific gravity

NIPPON SURFACTANT KK 26.12.77-JA-156943

H08 (14.07.79) A61k-07 B01f-03/08 C10m-01

Self-emulsification oil compsns. contain a polyhydric alcohol and/or its derivatives, oil and a surfactant as essential ingredients in such a way that the specific gravity is 0.92 to 1.2.

Typically, a bath oil compsn. consists of polyoxyethylene (20) trioleate 12%, ethyl oliveolate 48%, glycerol 35%, ion-exchange water 5% and proper amts. of a perfume and an antiphlogistic agent. 26.12.77 as 156943 (4pp96)

TSUB D21 73022Y/41 =J7 9021-415

Toiletries contg. ascorbic acid (2)-sulphate - are stable to oxidn. and do not decolourise

KUMIAI CHEM IND KK 02.03.74-JA-024414

*E13 (30.07.79) *J50117-945 +A61k-07*

Cosmetics contain ascorbic acid 2-sulphate (I) or its salts. Unlike the free acid or its fatty acid esters, (I) and its salts are stable to oxidn. and do not exhibit decolourisation in cosmetics.

In an example (I) K salt 4, ethylene glycol 10, perfume 0.1, and polyoxyethylene sorbitan monolaurate 1.0% were mixed and heated at 50°C. A preheated (50°C) mixt. of Me p-hydroxybenzoate 0.1, glycerin 2.0 and H_2O 82.8% was then added to give a transparent toilet lotion. 2.3.74 as 024414 A61k-7/00 (30.7.79) KUMIAI CHEM IND KK (2pp)(J50117945)

KAOS D21 41730W/25 =J7 9021-416

Pre-shampoo contg emulsified lanolin - prevents overdrying due to lipid elimination

KAO SOAP KK 09.04.73-JA-040173

*(30.07.79) *J49125-540 +A61k-07/06*

A preshampoo contg. oil-water type emulsified lanolin prevents overdried hair due to the elimination of lipids with shampoo. The hair looks soft after application of a prepn. contg. 15% emulsified lanolin prior to the application of a shampoo. 9.4.73 as 040173 A61k-7/06 (30.7.79) KAO SOAP KK (6pp)(J49125540)

SEIS D21 25089X/14 =J7 9021-417

Toilet prepns. for hair contg. phytic acid or zinc phytate - effective for dandruff removal

SEISAN KAIHATSU KAGAKU 03.08.74-JA-089320

*E12 (30.07.79) *J51019-141 A61k-07/06*

nproved toiletries for hair are obtd. by adding 0.1-5.0% phytinic acid or zinc phytate to hair lotion, hair tonic bair rinse. Phytinic acid is extracted from grain or ant seed. Zinc phytinate is prepd. by reacting phytic id with zinc oxide, zinc hydroxide or zinc carbonate.

In an example, a compsn. contains 1.0% phytinic acid, 2% 1-menthol, 3.0% glycerin, 3.0% alcohol, 20.0% ater, and a suitable amt. of perfume. 3.8.74 as 089320 61k-7/06 (30.7.79) SEISAN KAIHATSU KAGASKU (2pp) 51019141)

OWC ★ D21 63040B/34 ★US 4163-718

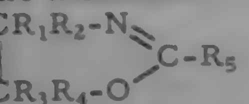
onomical complexing agents for treating phenolic pollutants - omprising an acylated poly:amine

DOW CHEMICAL CO 24.01.77-US-761555 (03.03.75-US-554380)

A97 E14 (07.08.79) C02b-01/20

phenol is complexed by contacting with an acylated polymine bearing units of formula $-[N(COR_5)-CR_1R_2-$ $R_3R_4-]_n-X$ (where R_{1-4} are H, 1-6C alkyl or hydroxy-6C alkyl, provided that at least two of them are H;R_5 is , phenyl or 1-24C alkyl; n $\geqslant$1; and X is a terminal inoranic or organic gp.).

The use of a polymer comprising ring-opened units of he monomer:



e.g. poly (2-methyl or ethyl-2-oxazoline) is claimed.

The process provides an economical, onvenient method of removing phenolic pollutants, e.g. lyes and tannins, from waste streams. 24.1.77 as 761555 .i.p. 4011160, 4001147 (+9.12.75-US-639152) (4pp558)

ETL ★ D21 63047B/34 ★US 4163-728

repn. of magnesium-contg. dispersion from magnesium arboxylate - using low carboxylate stoichiometry

PETROLITE CORP 21.11.77-US-853600

B06 E33 H07 (H06) (07.08.79) C10m-03/18 C10m-05/14 C10m-07/20

Prepn. of a stable, fluid, Mg-contg. dispersion, involves decomposing an Mg carboxylate (I) to MgO in a non-volatile process fluid contg. a dispersant capable of retaining the MgO in a stable suspension at >230°C.

Specifically, the process is effected at 230-400°C with (I) being pref. the acetate, used in an amt. (based on Mg $Mg(OH)_2$ or equivalent) of <50 (pref. <10, esp <5)% of stoichiometric.

Exemplary uses are as combination corrosion inhibitors /acid neutralisers for lubricating oil, greases and fuels (e.g. residual fuels and/or pulverised, S-contg. coal), as combination anti-weathering and scaling agents for waterproofing cement, concrete and asphaltic surfaces, in propriatary pharmaceutical and cosmetic formulations and as corrosion inhibitors (partic. in V-contg. fuels). Also used for imparting detergency to lubricating oils at 2-20% concn

Conversion of (I) to dispersed MgO is 92-96% of prior art processes where conversion of commercial, technical grade $Mg(OH)_2$ was only 50%. 21.11.77 as 853600 (5pp920)

PROC ★ D21 63082B/34 ★US 4163-800

Topical compsn. for treating skin lesions - esp. acne, contains benzoyl peroxide and guanidine salt

PROCTER & GAMBLE CO 17.08.77-US-825363

B05 (07.08.79) A61k-31/08

Compsn. for treating skin lesions contains benzoyl peroxide (I) as keratolytic agent and guanidine hydrochloride, sulphate, carbonate or phosphate to reduce skin irritation caused by (I). Treatment of skin lesions with this compsn. is also new. (I) and the guanidines are formulated as solns or suspension, pref. esh component being 1-25 (5-10)% of the compsn. Usual cosmetic auxiliaries can be included and the application rate is 0.001-0.5g/cm^2 of skin.

Used esp. for treating acne. The guanidine salts, already known as fungicides and bactericides, reduce the irritation induced by prolonged use of (I). 17.8.77 as 825363 (5pp1251)

See Also

D23 J7 9021207

D22 : BANDAGES; DRESSINGS

STOC- ★ D22 61558B/34 ★DS 1792-001

Sterilising autoclave with rotor in fixed chamber - has circuit arranged to fill chamber rapidly then continuously cycle hot or cold sterilising fluid

FA STOCK H 10.07.68-DT-792001

P34 (16.08.79) A61l-03

A sterilising autoclave for treating material contained in rigid or flexible vessels by means of a sterilising liq., such as hot water and also a cooling liq., consists of a stationary chamber with feed and return lines for the hot or cool liq. and an internal rotor in which the vessels are packed and rotated. While the rotor revolves, the hot/cold liq. enters the stationary chamber through upper and lower ducts respectively, each extending parallel to the rotor axis and connected by perforations with the interior of the stationary chamber. The liq. or steam pref. enters through the top and leaves through the bottom duct.

A distribution device for the sterilising liq. supplies it through the upper and lower ducts simultaneously into the interior of the sterilising chamber. After the sterilising chamber has been filled, the ducts are connected to a piping circuit contg. a pump so that the pump can cycle the sterilising liq. into the top duct, through the sterilising chamber and out through the bottom duct. 10.7.68 as 792001 (6pp236)

FARB D22 84734Y/48 =DS 2623-959

Antimicrobial paste compsn. e.g. for paints and adhesives - contains tetramethyl thiuram disulphide and benzyl alcohol hemiformal

BAYER AG 28.05.76-DT-623959

*A97 E16 G02 P63 +P34 (E14 G03) (16.08.79) *BE-855-110 A61l-13*

Antimicrobial paste contains tetramethylthiuram disulphide and benzyl alcohol hemiformal as the active components, pref. in a ratio 100 : 1-5 by wt. This new synergistic combination is used partic. for the protection of technical materials (esp. adhesives, paper and paints) against microbial degradation. 28.5.76 as 623959 (5pp047)

UNIL ★ D22 61693B/34 ★DT 2806-401

Absorbent bandage with perforated facing sheet - permeable in one direction and having punched perforations of constant cross/section

UNILEVER NV 15.02.78-DT-806401

A96 P21 P32 P73 (16.08.79) A41b-13/02 A61f-13/16 B32b-27/10

A thermoplastics foil or sheet, permeable to liquid, is intended esp. as the facing layer for articles such as bandages, wadding and the like with absorbent internal layers. The permeability of the covering sheet to the liquids is obtd. in one direction only by punching openings through this sheet.

The openings are punched so that the walls of each opening are perpendicular to the sheet and the generally tubular opening is thus perpendicular to the sheet and of constant cross-section.

Pref. dimensions are: cross-section $\geqslant$0.1 mm, depth of tube ≥ 0.3mm; shape of hole circular, rectangular, polygonal or star-shaped. Typically the openings are slit-shaped of dimensions 0.2 x 6 mm (0.3 x 2.0mm). They may be arranged in rows staggered relative to one another.

By forming each punched opening with walls perpendicular to the sheet the prodn. of the openings is simplified and assurance is provided that all openings are of uniform size. 15.2.78 as 806401 (12pp236).

PROC ★ D22 61820B/34 ★EP ---3-625

Liq. cleaning compsn. with high storage stability - comprising a paraffin sulphonate, hypochlorite, alkaline salt and water

PROCTER & GAMBLE CO 08.02.78-US-875954

(22.08.79) C11d-01/14 C11d-03/39

D/S: E(BE, CH, DT, FR, GB, NL).

A liq. compsn. comprises 0.1-10% (A) a cpd. which produces hypochlorite ions in aq. soln.; 0.03-10% (B) a paraffin sulphonate surfactant; 1-20% (C) an alkaline salt capable of maintaining the compsn. at an alkaline pH; and 10-90% (D) water.

The compsn. is useful for cleaning and scouring operations where bleaching and/or disinfecting performance is required, and has high storage stability.

29.1.79 as 200051 (18pp558).

(E)ISR: FR2094708; US4051056; US4051055; US4071463; DT2810187.

SUZU/ ★ D22 61920B/34 ★GB 1550-960

Ostomy bag deodorising seal - with activated carbon, impermeable plastics and adhesive layers

SUZUKI S 18.12.76-JA-U70209

G03 (22.08.79) B01d-53/04

A deodorising adhesive seal comprises a layer of odorous gas absorbing absorbent gas-permeable material with a gas-impermeable layer on one side and adhesive on the other.

The absorbent is pref. fibrous activated carbon, the impermeable layer is of plastics, and the adhesive is applied as a non-continuous layer. There is pref. a removable protective layer over the adhesive, e.g. of release paper. Active carbon may alternatively be incorporated into polyurethane foam, woven, knit or nonwoven cloth, paper or felt. 24.11.77 as 048883(3pp1358)

ITAI- ★ D22 61962B/34 ★GB 2014-299

Air purifying appts. - with electrostatic cleaner, filter and fan for creating airflow

INT AIR MONITORS LT 26.01.79-GB-002916 (28.10.77-GB-044985)

A88 J01 P34 (22.08.79) A61l-09 B01d-53/34

Odorous material is removed from a gas using a device which comprises a casing having a gas inlet and outlet. An electrostatic cleaner receives the gas directly from the inlet. The gas flows through a filter before it leaves through the outlet. A fan islocated between the cleaner and filter for producing the desired gas flow.

Pref. the filter contains a material which is a mix. of charcoal and an open-celled hydrophilic, foamed material such as a linear or cross-linked polyurethane foam, or a phenol-formaldehyde condensn. prod. having a catalytically active Redox system carried in it. 26.1.79 as 002916(4pp295)

ARIT/ ★ D22 62098B/34 ★J5 4086-625

Deodorisation appts. for toilets, drains, etc. - comprises plastic or steel container holding the deodorant, and a surrounding body with exhaust holes

ARITA J 20.12.77-JA-154200

E36 P34 (E16 E17 E35) (10.07.79) A61l-09/ B01d-53/18*

Deodorising appts. comprises a plastic or steel vacant body (I) and a surrounding body which is detachable from (I). The surrounding body is equipped with exhaust holes. The vacant body (I) contains the deodorant obtd. by mixing 76 wt. % of powdered zeolite, 16 wt. % of montmorillonite, 5 wt. % of acetic acid and 3 wt. % of mixt. of papain and starch (1:30), kneading the mixt. under addn. of water, and then formulating and drying the mixt. to form pellets.

The prim. deodorising device is formed from plastic or steel vacant body (I) and pellet-like deodorant which is covered by paper bag permeable by air. Outside this vacant body (I) there is a sec. deodorising device which is forme from the plastic or steel detachable ring body and the pellet-like deodorant covered by the paper bag and which is inserted outside the ring body. Outside sec. deodorising device there is a vacant surrounding body having the exhaust hole at side wall and the exhaust hole at the bottom.

The appts. is used for deodorisation of ammonia, methylmercaptan, H_2S, methyl sulphide and trimethylamine at toilet, drains, refuse-treating place, etc. 20.12.77 as 154200 (4pp108)

KANK- ★ D22 62223B/34 ★J5 4087-694

Granular active carbon used for air purificn. - comprises porous hard granules e.g. of cement or phenol resin, having adhered coating of active carbon powder

KANKYO KAGAKU KENKY 23.12.77-JA-156109

A81 E36 J01 (12.07.79) B01d-53/02 C01b-31/14

Granular active carbon (I), comprises powdery active carbon (II) and binder (III) coated on the surface of porous har granules (IV), so that the surface of (IV) consists of a laye of (III) and a layer of (II). (I) is produced by (i) coating the surface of (IV) with (III)-soln., (ii) preliminarily drying it until (III)-soln. on (IV) is removed almost completely and (IV) remains adhesive, (3) mixing it with (II) and (4) sepg. (I) from the excess (II).

(I) is used for clarifying air in a room and has high mechanical strength. As (IV), granule of hardened cement, foamed concrete, brick, ceramics, pumice, phenol resin, etc. are used. The particle size of (IV) should be > 50 meshes. Examples of (III) are gum arabic, tragacanth gum, starch, casein, natural rubber, nitrile rubber, PVAC, polyacrylic acid ester, silica sol, etc. The amts. of (II) and (III) coated on (IV) should be 0.03-2 wt. % and 0.02-1 wt. %, respectively. 23.12.77 as 156109 (6pp42)

TSUM ★ D22 62454B/34 ★J5 4088-908

Cleaning compsn. - contg. a di:thio-carbamide cpd. and a phthalimide, phenyl-sulphamide or di:carboximide cpd. as effective components

TSURUMI SODA KK (HOKK) 27.12.77-JA-156718

E19 (14.07.79) C11d-07/34

A cleaner contains a cpd. (A) selected from (1) zincdimethyldithiocarbamide, (2) zinc-ethylene-bis-dithiocarbamide (3) sodium ethylene-bis-dithiocarbamide and (4) ferric-dimethyldithiocarbamide and a cpd. (B) selected from (5) N-dichlorofluoromethylthio-N. N'-dimethyl-N-phenylsulphamide, (6) N-(dichlorofluoromethylthio)-phthalimide, (7) N-(trichloromethylthio)-phthalimide, (8) N-(trichloromethylthio)-tetrahydrophthalimide and (9) N-(1,1,2,2-tetrachloroethylthio)-4-cyclohexene-1,2-dicarboximide as the effective components.

Cleaner is suitable for cleaning lavatories of motor bus, train, ship, aeroplane, etc. and raw sewage of cattle It has good cleaning power, and prevents the emission of offensive odours. A typical cleaner is obtd. by mixing powdery glyoxal 5 pts. wt., cpd. (1) 2 pts. wt., cpd. (5) 3 pts. wt., malic acid 20 pts. wt., perfume 3 pts. wt., colouring agent 1 pt. wt., surfactant 5 pts. wt.and sodium sulphate 60 pts. wt. 27.12.77 as 156718 (3pp170)

OLIN D22 47579W/28 =J7 9021-344

Antimicrobial bis-(2-pyridyl-1-oxide)-disulphide - by hydrogen peroxide oxidn. of 2-mercaptopyridine 1-oxide salt at pH 4-5

OLIN CORP 02.05.74-US-466328

*A60 C02 E13 (30.07.79) *US3892-760 C07d-213/89*

Bis(2-pyridyl-1-oxide)disulphide (I) is prepd. by oxidn. of 2-chloropyridine (II) with permaleic acid, followed by tres -ment of the resulting N-oxide (III) with an alkali metal hydrosulphide or sulphide to afford the mercapto cpd. (IV) the novel feature is the adjustment of (IV)-soln. to pH 4-5 then oxidn. with H_2O_2 to furnish (I).

(I) is a known antibacterial and antifungal agent used e.g. to combat agricultural plant diseases and to resist mildew or other fungal attach in plastics and fabrics. 1.5.75 as 053071 (clg. 2.5.74-US-466328) C07d-213/89 (30.7.79) OLIN CORP (3pp)(J50149680)

ARS/ D22 88538R/48 = J7 9021-406
ydrophilic glyceride ointment base
LARSSON K (LAR /) 30.09.66-SW-013181
*B05 (30.07.79) *CA-856-215*

OWC D22 47414B/26 = US 4163-796
tabilised aq. antimicrobial slimicidal compsn. - contains oly:alkylene glycol, water, halogenated amide and quat. mmonium or phosphonium cpd.
DOW CHEMICAL CO 14.12.77-US-860543
*A97 C03 E19 P34 (A25 D15 D25) (07.08.79) *DT2853-119 + A01n-09/20*

Aq. antimicrobial compsn. of pH 2-5 comprises (a) an α-alogenated amide antimicrobial of formula R_1-C(X)(Br)-ON$(R)_2$. (I); (b) a water-miscible organic solvent selected rom normally liq. poly(ethylene, trimethylene or tetra-nethylene)glycols or their mono- or di-satd. hydrocarbyl thers; (c) water; and (d) a quat. ammonium or phosphon-um stabiliser of formula $(R_2)_4Q^{\oplus}A^{\ominus}$ (II) to measurably educe the decomposition rate of (I) in the compsn.

In (I) X is H, halogen or CN; each R is H, opt. substd. satd. hydrocarbyl or together complete a 4-10C hetero-ycle; and R_1 is CN or CON$(R)_2$. In (II) Q is N or P; each R_2 is satd. hydrocarbyl; and A ⊖ is an anion.

Compsn. is useful as slimicide in paper pulping processes and cooling towers and as sterilising agent for dry-cleaning fluids. 14. 12. 77 as 860543 (8pp997)

DOWC ★ D22 63081B/34 ★US 4163-797
Stabilising alpha halo:amide antimicrobial aq. solns. - with carbamoyl or sulphamoyl cpd. such as sulphamide, urea, biuret, oxamide or caprolactam
DOW CHEMICAL CO 14.12.77-US-860541
A97 C03 E16 (A25 C02 D15 E13) (07.08.79) A01n-09/20

Aqs. antimicrobial compsn. of pH 2-5 comprises a mixt. of (a) an α-halogenated amide antimicrobial cpd. of formula R_1-CBrX-CON$(R)_2$ (I), (b) a water miscible organic solvent sufficient to dissolve (I); (e) water; and (d) a stabiliser of the formula R_2-Q-N$(R_3)_2$ (II).

In the formulae, X is H, halo or CN; each R is independently H, satd. hydrocarbyl opt. substd. by inert gps. or N$(R)_2$ forms a 4-10 membered heterocyclic ring; Q is -CO- or -SO_2-, R_2=R_4, -N$(R_4)_2$, -CON$(R_4)_2$ or -NHCON$(R_4)_2$; R_4 is H or lower alkyl; R_3 is independently H or lower alkyl or R_2+R_3 is $(CH_2)_3$-, -$(CH_2)_4$-, -$(CH_2)_5$-, -$COCH_2CH_2$- or $COC(R_4)_2N(R_4)$-. The organicv solvent is pref. a (poly)-alkylene glycol such as polyethylene glycol 200, tetraethylene glycol, polyethylene glycol 400, diethylene glycol dimethyl ether or 1,4-butanediol.

Used as antimicrobial agents for aq. systems and for sterilising dry cleaning fluids. 14. 12. 77 as 860541 (11pp)

DOWC D22 49389B/27 = US 4163-798
Aq. antimicrobial compsns. based on halogenated amide - contg. an aldehyde stabiliser, are used as slime inhibitors, e.g. in paper making plants and cooling towers, and as sterilisers
DOW CHEMICAL CO 14.12.77-US-860642
*A97 C03 F06 P34 (D15 F09) (07.08.79) *DT2854-078 + A01n-09/20*

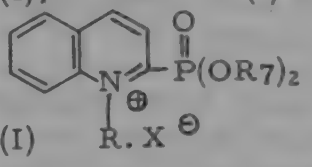
Aq. antimicrobial compsn. of pH 2-5 comprises (a) an α-halogenated amide antimicrobial cpd.of formula R_1-C(X)(Br)-CON$(R)_2$ (I), (b) a water-miscible organic solvent selected from normally liq. poly(ethylene, trimethylene or tetramethylene) glycols or their mono- or di-satd. hydrocarbyl ethers; (c) water; and (d) a stabiliser selected from satd. aliphatic or alicyclic aldehydes or carbocyclic aromatic aldehydes, in such an amt. that the decomposition rate of (I) in the compsn. is measurably reduced.

In (I) X is H, halogen or CN; each R is H, satd. hydrocarbyl, opt. substd. or they together complete a 4-10C heterocycle; and R_1 is CN or CON$(R)_2$.

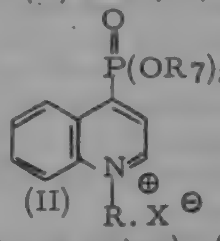
Compsn. is used as a slimicide in paper pulping processes and cooling towers and as sterilising agents for dry-cleaning fluids. 14. 12. 77 as 860642 (8pp997)

PETL ★ D22 63111B/34 ★US 4163-850
Full quat. nitrogen (iso)quinoline phosphonate cpds. - useful as biocides, herbicides, corrosion inhibitors and chelating agents
PETROLITE CORP 15.12.77-US-860820 (19.02.71-US-117082)
C01 E11 H01 (07.08.79) C07f-09/60

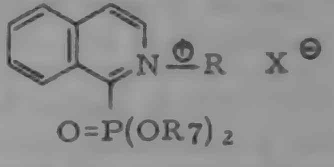
A full quat. nitrogen-heterocyclic phosphonate of formula (I), a mixt. of (I) and (II) and (III), are new (where R and R7 are alkyl; and X is an anion). (i) (I) (R is $C_{12}H_{25}$; R7 is C_2H_5; X is Br ⊖ . (ii) (II) (R is $C_{12}H_{25}$, R7 is C_2H_5, X is Br ⊖) are specifically claimed.



(I)



(II)



(III)

Cpds. (I),(II) and (III) are useful as biocides, bactericides, herbicides, corrosion inhibitors and chelating agents. 15. 12. 77 as 860820 Div ex 3770750 (+19. 7. 73-US-380605) (9pp957)

See Also

D14 EP 3721 D15 US 4163674

D23 : OILS; FATS; WAXES

SORM/ ★ D23 B/34 ★CS 7806-350
Sodium salts of sulphonated mono-glycerides of fatty acids
SORM M 02.10.78-CS-006350
E12 (31.05.79) C11d-01/28

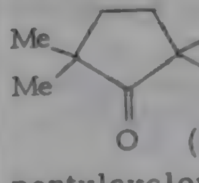
HENK D23 50189T/32 = DS 2100-022
Sepn of olein stearine mixts - using different ial melting point separation
HENKEL KG AUF AKTIEN 02.01.71-DT-100022
*E17 (16.08.79) *DT2100-022 C07b-29 C07c-69*

Fatty mixts., e.g. fatty acid triglycerides, are sepd. into the fractions of different m.pt. In the first sepn. stage the initial fatty mixt. which is at a temp. higher than the desired sepn. temp. is converted into a dispersion of liq. and solid particles in an aq. wetting agent soln. at the desired sepn. temp.

The dispersion is sepd. into a lighter oily phase and a heavier phase of solid particles suspended in aq. soln. The oily phase is worked up at a lower temp. in a further sepn. stage and the resulting suspension of solid particles in aq. wetting agent is returned to the first sepn. stage to cool the initial mixt. to the desired sepn. temp. 2.1.71 as 100022 (7pp068)

FIRM D23 85082Y/48 = DS 2721-002
(2)-(N)-alkyl-cyclopentanone derivs. - prepd. by alkylating the corresp. (2)-(N)-alkyl cyclopentanone have fruity notes, like peaches or apricots (NL 15.11.77)
FIRMENICH SA 13.05.76-CH-005995
*B05 E15 P15 (D13) (16.08.79) *DT2721-002 A23l-01/22 A24b-15/04 A61k-07/46 C07c-49/28*

2,5,5-Trimethyl-2-alkylcyclopentanones of formula (I) are new.



(I)

In (I), R is 4-6 C alkyl, pref. linear. Prepn. of (I) comprises methylation of the corresp. 2-alkylcyclopentanones in the presence of a base. A prefd. cpd. is 2,5,5-trimethyl-2-n-pentylcyclopentanone.

The cpds. are used in perfume and flavouring compsns. 10.5.77 as 721002 (4pp047)

RYBA/ ★ D23 61597B/34 ★DT 2805-025
Higher fatty acid prodn. from olefin - by catalytic hydrocarboxylation in ketone, ether or ester solvent
RYBAKOV V A 06.02.78-DT-805025
E17 (16.08.79) C07c-51/14 C07c-53/22

Prodn. of 10-20C fatty acids (I) comprises hydrocarboxylation of 9-19C olefins at 100-150 atmos. CO pressure with olefin : H_2O mole ratio 1:1-6 in presence of $Co_2[CO]_8$ (II) catalyst.

The organic solvent used is a 3-7C aliphatic or cyclic ketone and/or 2-7 ether or esters and reaction is at 90-120°C with mole ratio olefin: solvent 1:2-5. The reaction mixt. is stirred, pref. to provide a Reynold's no. of 20000-80000.

(I) are substitutes for natural oils and fats in the soap, paint, dye, perfumes and leather industries. They are also used in prodn. of synthetic rubber, tyres and rubber articles. Using these solvents improves prod. yield (e.g. 86% with 86% linear acids) and quality, and employs a simpler process since no high b.pt. solvent is used. The prod. contain no hydroxy-, keto- or cycloparaffinic acids or dicarboxylic acids, and has a reduced content of non-saponifiables. 6.2.78 as 805025 (15pp1251).

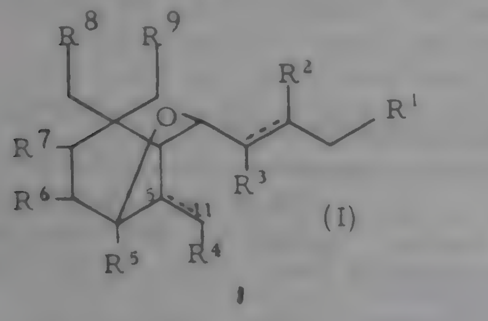
KEMP/ ★ D23 61690B/34 ★DT 2806-372
Coloured candle coiled into differently coloured layers - by manipulating laminated block to which ornamental granules are added
KEMPTER H 11.02.78-DT-806372
(16.08.79) C11c-05

Highly decorative coloured effects can be produced on candles of wax, paraffin or stearine, in a series of steps commencing with the casting of a block formed by wax layers of different colours. The block is only cooled to 295 - 328 K and is maintained at this temp. until required for processing. The heated block is folded together and stretched at one side whilst being compressed at the other into a partly spherical lump.

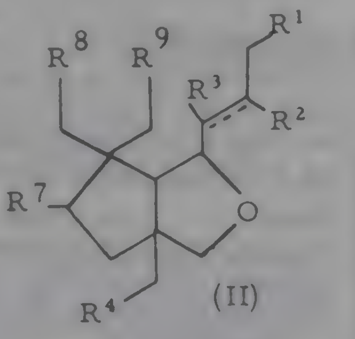
Cuts are then made down the sides and across the bottom to expose the layers and with heating maintained the block is twisted into a pear shape; twisting being continued until a head pulls off. The block is finally moulded into a cylinder, barrel shape or sphere and drilled for the wick. 11.2.78 as 806372 (15pp1014).

GIVA ★ D23 61791B/34 ★EP ---3-515
Mega-stigman-oxide and oxa-bi:cyclooctane perfumes and/or flavourants - prepd. by reacting epoxidised ionone or irone derivs. with aluminium sec. alcoholate
GIVAUDAN L & CIE SA 13.12.78-CH-012677 (09.02.78-CH-001449)
E13 (D13) (22.08.79) A23l-01/22 C07d-307 C11b-09
D/S: E(CH, DT, FR, GB, NL).

New megastigman-4,7-oxides and new 7-oxa-bicyclo(3,3,0)-octanes have formula (I) and (II):



(I)



(II)

(R^1 and R^2 are H, Me, propyl, vinyl, propenyl or allyl; R^3, R^4, R^5, R^6, R^7, R^8 and R^9 are H, Me or Et; the dotted lines are an optional bond or, if R^1 and/or R^2 = propenyl, vinyl or allyl, an obligatory bond; the 5,11-bond in (I) is saturated only when the remainder of the mol. is saturated).

(I) and (II) are used as the active ingredients in perfumes and/or flavouring compsns., e.g. for modifying fruit and berry aroma in foods; in tea; drinks and tobacco.

19.01.79 as 100167 (51pp200).
(G) ISR: 1 Journal Reference.

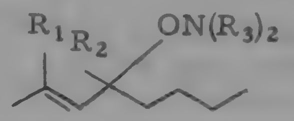
ELLI- D23 45533A/25 #GB 1550-801
Fat recovery from hide fleshings and trimmings - by passing ground particles to steam cooker and screen, followed by flotation
ELLIOTT G H CO 17.05.76-US-687326 (07.02.78-GB-004783)
*(D18) (22.08.79) *US4087-251 C11b-01/16*

Fat is recovered from hide fleshings and trimmings using appts. which includes a grinder; a cooler having a screw conveyor; a device for transferring the material from the grinder to the cooler; a screen at the end of the conveyor to receive and separate the fat from the solids; a continuous screw press to press further fat from the particles trapped on the screen; a heated tank below the screen to collect the fat and the particulates and in to which water can be added to float the fat and allow the particles to settle.

The cooler is in the form of a steam jacketed tube. 7.2.78 as 004783(6pp1376)

NISC ★ D23 62320B/34 ★J5 4088-208
Linear unsatd. alcohol prodn. for use as perfume - by reduction-hydrogenation of di:hydro-linalyl hydroxylamine deriv. in presence of copper-chromite catalyst
NISSAN CHEM IND KK 24.12.77-JA-156027
E16 (13.07.79) B01j-23/86 C07c-29 C07c-33/02

Prepn. comprises reduction-hydrogenating the cpd. of formula (I) in the presence of copper-chromite catalyst. In (I)



(I)

R_{1-2} are each H or lower alkyl and R_3 is alkyl.

Starting dihydrolinalylhydroxylamine is prepd. by hydrogenating linalylhydroxylamine which is prepd. from isoprene, myrcene and geraniol. The reaction is practiced either without solvent or in the solvent which can dissolve both (I) and formed linear unsatd. alcohol. The reaction is practiced at 80-200°C under the pressure of 30-150 kg/cm² using the catalyst in the form of suspension, fixed bed, etc. The linear unsatd. alcohol can be recovered from the reaction mixt. by distn. and opt. further by rectification.

Using copper-chromite catalyst, O-N bond in (I) can be reduction-opened while suppressing the hydrogenation on other unsatd. bonds. Linear unsatd. alcohol partic. dihydrolinalool which is useful as perfume alcohol, can be prepd. from dihydrolinalylhydroxylamine inexpensively. 24.12.77 as 156027 (2pp5)

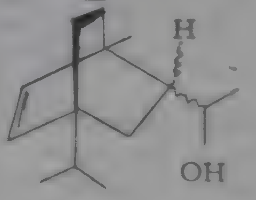
DAII- D23 25706A/14 =J7 9021-207
Allergen-free lanolin wax - produced by adsorbing lanolin on an adsorbent and eluting with a non-polar solvent and used in pharmaceutical and cosmetic compsns.
DAI-ICHI CRODA CHEM 28.09.76-JA-117034
*B07 (D21) (28.07.79) *DT2743-674 C11b-11*

New allergen free lanolin wax has a free fatty alcohol content of ≯ 1.7% and a 1,2-diol content of ≯ 0.26%. It is prepd. by dissolving wool fat or lanolin in a non polar solvent passing the soln. through an adsorbent-filled column, eluting the column with the non-polar solvent, and concentrating the soln. passed through and the elute.

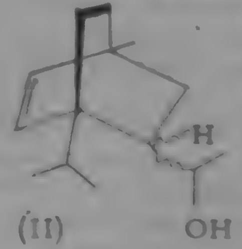
The allergen-free prod. is free from skin-irritant allergenic and odorous substances. 28.9.76 as 117034 C11b-11/00 (28.7.79) DAI-ICHI CRODA CHEM (8pp) (J53041308)

INFL ★ D23 63050B/34 ★US 4163-737
Fragrance modifying compsns. e.g. for tobacco - comprising bi:cyclo(2.2.2)octene derivs. and adjuvants, e.g. perfume oils
INT FLAVORS & FRAGR INC 08.06.78-US-913735 (23.03.77-US-780685)
E15 (D18) (07.08.79) C11b-09

A fragrance modifying compsn. comprises (A) ≥1 bicyclo [2.2.2]octene deriv. selected from cpds. of formula (I) and (II) (where the wavy lines represent exo and endo configurations of the ethanol moiety, w.r.t. the C=C of the bicyclo-octene moiety) and mixts. of these: and (B) ≥1 adjuvant sel-



(I)



(II)

cted from natural end synthetic perfume oils, other alcools, aldehydes, ketones, esters, nitriles and lactaones.

The compsn. is used to augment or enhance the organoptic properties of tobaccos, perfumes, and perfumed a rticles, and US 4128729 disclosed the bicyclo[2.2.2] ctene derivs. as new. 8. 6. 78 as 913735 Div ex 4128729 0pp990)

DHO D23 41755Y/24 =US 4163-750

lective catalytic hydrogenation of vegetable or animal oils - using pported catalyst contg. iron, cobalt, nickel or platinum gp. metal

JOHNSON MATTHEY LTD 11.02.76-GB-005385

*(07.08.79) *BE-851-202 C11c-03/12 + B01j-21/18*

egetable oil comprising a mixt. of linolenic acid, linoleic cid, oleic acid and stearic acid is hydrogenated such that e triply unsatd. linolenic acid within the oil is selectively ydrogenated to the doubly unsatd. linoleic acid.

The oil is contacted with H_2 in the presence of a catalycally effective amt. of a supported metallic catalyst contg ⩾1 platinum gp. metal under kinetic control. The triply nsatd. acid in the prod. is converted to the double unsatd. rod. with no trans isomerisation, producing a prod. of is form.

The prod. formed in the process is mainly linoleic and leic acid and has an iodine content of >100-110. The nutritional value or edibility of the prod. is unimpaired. 0. 2. 77 as 767483 (3pp931)

AAR D23 68205T/43 =US 4163-759

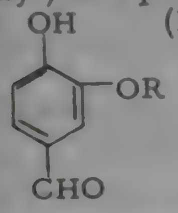
romatic hydroxy aldehydes prepn - by simultaneous oxidn and ecarboxylation of hydroxyarylgycolic acids

HAARMANN & REIMER GMBH 31.03.71-DT-115551

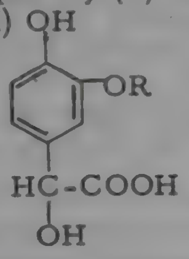
*E14 (07.08.79) *DT2115-551 C07c-45/18*

romatic hydroxyaldehydes of formula (I) (R is methyl or thyl) are prepd. by (1) condensing o-(m)ethoxy phenol with glyoxylic acid to produce a substd. glyoxylic acid of formula (II) and (2) oxidising (II) in aq. acid at pH 5(0.3-3) with an oxidising agent having a redox potential E=+0.17 to +1.84 volts. The oxidising agent is K or Na chlorate in admixt. with Cu, Fe, Co or Ni sulphate or chloride.

I)



(II)



(I) are obtd. in high yield, based on starting phenol. (I) are used as flavourings and as odorants. 9. 5. 77 as 795359 (+14. 3. 72-US-234653) (5pp992)

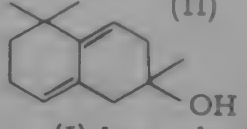
FIRM D23 10713A/06 =US 4163-866

Alpha ambrinol prodn. - by thermolysis of beta ionone to dehydroambrinol and catalytically hydrogenating

FIRMENICH SA 28.07.76-CH-009634

*E15 (07.08.79) *DT2733-928 + C07c-29 C07c-33/02*

Prepn. of α-ambrinol (I) comprises (a) heating β-ionine at 300-500°C to give a dehydroambrinol of formula (II) and (b) catalytically dehydrogenating (II) to form (I).



(II)

Pref. (b) is effected in the presence of Raney Ni in an aq. alcoholic medium. Pref. (I) is sepd. by fractional distn. Pref. (II) is isolated after thermolysis.

(I) has odoriferous properties and is used in the mfr. of perfumes. 12. 7. 77 as 814860 (3pp992)

SIMC ★ D23 B/34 ★ZA 7804-381

De-gumming tri:glyceride oils prior to physical refining - by adding non-toxic acid, and sepg. gum layer after addn. of base and water

SIMON-ROSEDOWNS LIM 25.11.77-GB-049091

(21.06.79) C11b C11c

Process comprises adding a quantity of non-toxic acid to the oil and allowing contact prior to neutralising such acid by the addn. of a base and water, allowing contact for the development of oil insoluble gum particles, and separating the gum layer in water which arises. 2. 8. 78 as 004381 (10pp)

See Also

D14 US 4163676

D24: SOAP; SOAP DETERGENTS

LIST/ ★ D24 B/34 ★CS 7705-317

Soap refining process

LIST J 11.08.77-CS-005317

(31.05.79) C11d-09/22

DAII D24 17591U/13 =GB 1399-927

Detergent compsn for use in washing machines - contg soap and ester(s) of cane sugar with fatty acids

DAIICHI KOGYO SEIYA 06.10.71-JA-078872 (11.09.71-JA-070554)

*(08.08.79) *DT2244-310 C11d-09/60*

Detergent compsn. comprises a mixt. of (a) 75-95 wt.% of ⩾1 soap with (b) 24-5 wt.% of ⩾1 sucrose ester. The sucrose ester(s) comprise ⩾1 sucrose ester of a 12-14C fatty acid and ⩾70 wt.% of the sucrose ester is mono- and di- esters.

Pref. the compsn. also includes ⩾1 saccharide. Pref the sucrose ester is of ⩾1 of lauric and, myristic acid, palmitic acid, stearic acid, oleic acid and linoleic acid. Pref. the degree of substitn. of the ester is 1.5-3.5 (1.6-2.0).

The compsn. has improved detergency at relatively low temps. and is non-hazardous. The saccheride improves feel or handle of the wash and provides it with a soft finish. 7.9.72 as 041638 (+ 13.9.71 - JA - 071484) (17pp)

D25: OTHER DETERGENTS

PROC ★ D25 61556B/34 ★CA 1059-865

Detergent compsns. contg. specified ethoxylated prim. alcohol cpds. - e.g. for washing polyester cotton blends

PROCTER & GAMBLE CO 11.03.75-US-382737 (21.03.74-US-453464)

A97 (07.08.79) C11d-07/24

A grease and oil removing compsn. consists of a base catalysed prim. alcohol ethoxylate of formula: $R_1-R_2-O(CH_2CH_2O)_{nav}H$ where R_1 is a linear alkyl residue; R_2 is CHR_3CH_2; R_3 is H and mixts. thereof with 1-4C alkyl, there being ≯70 wt.% of the gps. in the mixts.

R_1 and R_2 together form an alkyl residue having a mean of 9-15C, ⩾65 wt.% of the residue having a chain length ±1C of the mean; wherein 3.5 < nav < 6.5, provided that the total amt. by wt. of ethoxylate components in which n= 0 is ≯ 5% and the total amt. by wt. in which n = 2 to 7 inclusive is $\not< 63\%$, and wherein the hydrophilic lipophilic bal. of the ethoxylate lies in the range 9.5 to 11.5, the compsn. being otherwise free of alkoxylated nonionic surfactants.

The compsn. is used for solubilising and/or emulsifying organic hydrophobic soils such as hydrocarbon oils, complex fats, e.g. triolein and long chain unsatd. and satd. glycerides, and body soils (lipid plus particulate). It is used for cleaning textiles and hard surfaces e.g. walls and floors. The compsn. removes greasy soil from polyester and polyester/cotton blends. 17.3.75 as 222185 (7ppp1355)

HAVL/ ★ D25 B/34 ★CS 7708-251

Surfactants prepn. from solns. of saccharin acids salts

HAVLINOVA B 09.12.77-CS-008251

E13 (E12) (31.05.79) C11d-03/22

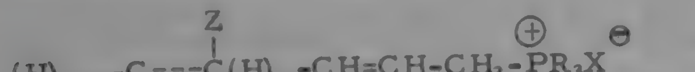
FIRM D25 89517V/52 =DS 2427-608

Undeca-1,3-trans, 5 cis or trans triene prepn - by reacting quaternary phosphonium salt with hexanal useful as perfume constituents

FIRMENICH SA 07.06.73-CH-008247

*E17 +P15 (16.08.79) *NL7407-364 C07c-11/21 C07c-21/14 C07c-33/02 C07f-09/50 C11b-09*

Undecatrienes (I) are prepd. (A) by forming quat. phosphonium salts of formula



$$(H)_{n+2}\text{-}C{\equiv}{\equiv}{\equiv}\overset{Z}{\overset{|}{C}}(H)_n\text{-}CH{=}CH\text{-}CH_2\text{-}\overset{\oplus}{P}R_3X^{\ominus}$$

(where R is a hydrocarbon gp; X is CL, Br, I, BF_4 or CLO_4 and either n=1, Z is halogen and the dotted lines represent a single bond or n = O, Z is H and the dotted lines represent a double bond), reacting with hexanal in presence of a base and then, if desired separating the stereoisomers.

Alternatively undeca-1,3-trans-5-cis-triene is prepd. by adding butadiene monoepoxide to a cpd. of formula $CH_3\text{-}(CH_2)_4\text{-}CH\overset{cis}{=}CH\text{-}Me$ (where Me is an alkali metal or residue of a transition metal complex) and halogenating and then dehydrohalogenating the resulting alcohol. The trienes are useful as perfume and flavouring ingredients for foods, pharmaceuticals, tobacco, etc. 7.6.74 as 427608 (17pp068)

LIOY D25 90946X/49 =DS 2621-088

Granular detergent and cleansing compsns. - prepd. by atomising suspensions contg. olefin sulphonate, sodium carbonate, sodium silicate and water

LION FAT & OIL KK 14.05.75-JA-057094

*A97 E17 (A25 E34) (16.08.79) *DT2621-088 C11d-03/10*

Prodn. of a granular washing and cleansing compsn. comprises heating a suspension of active components, pref. to 70-180 (95-160)°C, followed by spraying into an atmosphere at about 20°C or less. The components comprise a mixt. of 10-22 C olefin-sulphonate, (10-30 wt.%); Na_2CO_3, Na_2SiO_3 and water (60-90 wt.%); and the usual additives, (0-30 wt.%). The proportions of Na_2CO_3, Na_2SiO_3 and water are such as to lie in a selected zone of the corresp. triangular phase diagram.

Pref. additives are higher alkylbenzenesulphonates; alkyl sulphates; salts of sulphocarboxylic esters; ethylene oxide adducts with alkanols or alkylphenols; quat. ammonium cpds; and various alkali metal salts. 12.5.76 as 621088 (10pp047)

KONN D25 06068B/04 =DS 2831-778

Enzyme particles resistant to powdering under pressure - contain organic binder, e.g. methylcellulose, and filler; used mainly in detergent compsns. and in pharmaceutical compsns., etc.

GIST-BROCADES NV 20.07.77-GB-030556

*A81 B04 (A96 A97 D16) (16.08.79) *BE-869-132 C07g-07/02 C11d-03/38*

Prodn. of granulates contg. enzymes, which are not easily powdered, comprises mixing suitable carriers, (10-60 wt.%); dry (or nearly dry) enzyme; compatible hydrophilic organic bonding agent, (about 20-60 wt.%); opt. water (to give 5-15 wt.% water content); lubricant, esp. paraffin oil or wax, stearic acid, polyvinyl alcohol, polyvinylpyrrolidone or glycerol; water repellant, (o.5-5 wt.%); and opt. other additives : the mixt. is granulated, separated into required particle size and dried.

Pref. bonding agents are starch and cellulose derivs. Pref. enzymes are protease, amylase, lipase, lactase, invertase and glucoamylase. 19.7.78 as 831778 (9pp047)

HOFS ★ D25 61694B/34 ★DT 2806-450

Cleansing compsn. absorbing oil, fat and wax - contains grain-structured water-repellent and/or cation-active hydrophilic starch

HOFFMANNS STARKEFAB 15.02.78-DT-806450

A97 (A96) (16.08.79) C11d-03/22

Cleansing- and absorbent compsn. contains $\geqslant 50$ wt.%, w.r.t. solids, of grain-structured water-repellent starch (I) and/or cation-active hydrophilic starch, (II), opt. as a suspension or paste with a liq. carrier.

Compsns. contg. (I) are used esp. for absorbing oils, fats or waxes. (I), opt. together with (II), or a starch mol. contg. hydrophobic and cation-active hydrophilic substits., are used for the cleaning and care of natural- and/or chemical fibre textile articles, esp. carpets and upholstery, as well as in dry-cleaning and dry hair-shampoos. The starches, in dry or wet compsns., have high cleansing power and affinity to C black, Fe oxide, kaolin, SiO_2, as well as to fats and oils. Carpet-shape is retained. The starches are easily removed, e.g. by vacuum-cleaning, without removing antistatic or bacteridical finishes. 15.2.78 as 806450 (32pp200).

UNIL ★ D25 61747B/34 ★DT 2904-945

Detergent and esp. dishwashing compsn. - contains specifically active sec. alkyl sulphate isomers and opt. co-surfactant (BE 14.8.79)

UNILEVER NV 14.02.78-GB-005837

A97 (16.08.79) C11d-01/14

The active detergent component in a cleansing- or dishwashing compsn. is a 10-18C sec. alkyl sulphate, (I), contg. $< 50\%$ 2/3-sulphate isomers, (Ia), and > 40 (> 60) % 14 C $^{-2-}$, 15 C $^{-2/3/4/5/6}$-, 16 C $^{-3/4/5/6/7}$- and/or 17 C $^{-7/8/9}$- active isomers, (Ib) (where the additional no. denotes the alkyl chain C atom carrying the sulphate gp.).

(I) have improved cleansing and foaming properties, in hard as well as in soft water. 9.2.79 as 904945 (18pp200).

KAOS ★ D25 61760B/34 ★DT 2905-207

Dry-cleaning compsn. yielding soft antistatic clothes - contains quat. ammonium salt, anionic surfactant, alkanolamine salt and dry-cleaning solvent

KAO SOAP KK 15.02.78-JA-016318

E16 (E14) (16.08.79) C11d-03/43

Cleansing compsn. for dry-cleaning consists by wt. of (A) 5-60 % of $\geqslant 1$ quat. ammonium salt having formula $(R^1R^2R^3R^4N^+)X^-$ (I) (where R^1 is 12-22C alkyl, and R^2 and R^3 are 1-3C alkyl or $\left(CH_2CHR^5O\right)_nH$ in which R^5 is H or Me and n is integer 1-3; R^4 is the same as R^2, or 12-22C alkyl and X is halogen or mono- 1-3 C-alkyl-sulphate, (B) 1-50% of $\geqslant 1$ anionic surfactant alkanolamine salt and (C) 5-80% synthetic or mineral dry-cleaning oil solvent. Wt. ratio (A) : (B) is 100 : 5 to 100 : 60.

Compsns. contg. (A) and (B) are stable, homogeneous, have good solubility in dry-cleaning solvents, high washing power, softening activity, antistatic and corrosion-protective activity. 12.2.79 as 905207 (25pp200).

BORA- ★ D25 61898B/34 ★FR 2408-651

Foam product esp. for cleaning very dirty hands - contg. surfactants, inert powder, antiseptic and foam stabiliser

BORAX FRANCAIS 14.11.77-FR-034134

A97 (13.07.79) C11d-17

The foam for cleaning and softening the hands contains active agents consisting of an aq. complex of anionic and/or nonionic surfactants; an inert powder and an antiseptic, also an agent for stabilising the foam in cellular form.

The foam is prepd. by mixing the aq. complex, antiseptic and stabiliser and the inert powder is suspended in the mass in a homogeneous manner to give the prod. the appearance of an oily foam. Pref. the aq. complex pref. contains an alkane sulphonate in amt. 1-60% and a polyethoxylated alkanol sulphate, such as lauryl ether sulphate sodium salt, in amt. 1-25%.

The prod. is esp. used for cleaning the hands after dirty work. It is effective, does not irritate the skin, and s easy to package, distribute and apply. 14.11.77 as 34134 (5pp597).

ROC D25 12761Y/08 =GB 1551-074

ish washing liquid compsn. of high cleaning and foaming power - ontg. specified mixt. of anionic and nonionic surfactants

PROCTER & GAMBLE CO 08.12.75-CA-241211 (20.08.75-CA-233768)

*A97 E19 (A25) (22.08.79) *BE-845-346 C11d-01/83*

Liq. dishwashing compsn. comprises (a) 10-60 wt.% of a surfactant mixt. of an anionic surfactant (I) and a non-ionic surfactant (II), and (b) a liq. carrier of water and opt. water soluble solvents.

(I) is alkali metal, ammonium and alkanolamine salts that are paraffin sulphonates having 13-21C in the alkyl unit., alkylbenzene sulphonates having 9-15C in the alkyl unit., 12-18C alkyl sulphates and/or α-olefin sulphonates. (II) is an ethoxylated prim., opt. branched, 9-11C alcohol condensed with 3-9 moles of ethylene oxide per mole of alcohol. The wt. ratio of (I) : (II) is 20:1 to 2:3.

Compsn. has improved sudsing qualities with improved greasy soil removal. Compsn. is mild to the hands. 20.8.76 as 034789(12pp982)

PROC D25 21831Y/13 =GB 1551-091

Liq. detergent compsn. contg. anionic surfactant - prepd. from free acid and magnesium hydroxide and alkanol-amine

PROCTER & GAMBLE CO 22.09.75-US-615270

*A97 E19 (E33) (22.08.79) *BE-846-438 C11d-01/83 C11d-03/12 +C11d-10/40*

Prepn. of a homogeneous heavy-duty liq. detergent compsn (I) is claimed. (I) contains a surfactant component (II), comprising detersive amts. of anionic and nonionic surfactants, as well as alkanolamines (III) and Mg salts.

Improvement comprises (a) mixing (II) comprising a detersive amt. of $\geqslant 1$ anionic surfactant, in the free acid form, with $Mg(OH)_2$ to give a mixt. with a soln. pH of 1-5.5 (1-3) and (b) admixing sufficient (III) to give a compsn. with a soln. pH of 6-9 (7-8). Pref. the nonionic surfactant is added with (III). The anionic surfactant is e.g. a 10-18C alkyl-benzenesulphonate and the nonionic surfact is pref. a condensate of ethylene oxide with an alcohol or alkyl phenol.

Typical use concn. os $\geqslant 0.05$ wt.% in an aq. laundering liquor and pref. 0.08-0.5 wt.% for through-the-wash laundering. 21.9.76 as 039080(12pp992)

PROC D25 09277Y/06 =GB 1551-142

Fabric softening microcapsules useful in washing machines - having condensation polymer walls, and core of antistatic-softening agent and m. pt. -lowering cpd.

PROCTER & GAMBLE CO 21.07.75-US-597938 (21.07.75-US-597867)

*A97 E19 F06 (A28) (22.08.79) *BE-844-363 B01j-13/02*

A capsule having a max. particle dimension of $< 400\mu$, esp. useful for incorporation in a liquid fabric conditioning compsn., consists of (a) an inner core of a fabric antistat/softener material and a m.pt. depressant which is a silicone oil or a non-aromatic alkyl or alkoxy ether which is free of functional gps. which react with a monomer used in forming the outer wall, has a b.pt. > 30°C, is capable of lowering the m.pt. of the fabric antistat/softener material by > 5°C, and is present at a level $< 50\%$ of the antistat/softener material; and (b) an outer wall of a product formed by interfacial polycondensation of two monomers.

When the conditioning compsn.-treated fabrics are dried in an automatic clothes dryer, the wall constituent of the capsules rupture to release the fabric antistat/softener material. The dried fabrics have a very satisfactory antistat benefit imparted to them. 21.7.76 as 030348 (9pp990)

LIOY ★ D25 62231B/34 ★J5 4087-708

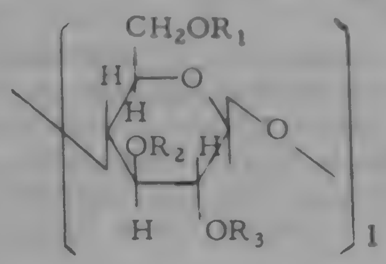
Domestic detergent liq. avoiding spots on dry objects - contains a cellulose deriv. modified by a cation contg. quat. nitrogen, and anionic surfactant

LION FAT & OIL KK 26.12.77-JA-156973

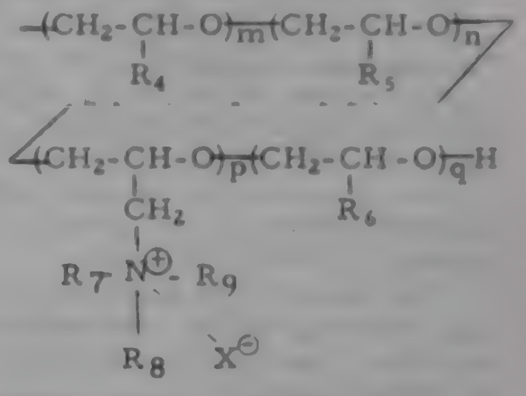
A97 (A11) (12.07.79) C11d-03/38

The detergent consists of 0.05-0.5 wt.% cellulose deriv. denatured by a cation contg. 0.5-3.5 wt.% quat. N, 16-35 wt.% anionic surfactant and balance conventional components. Pref. the denatured cellulose deriv. is a reaction prod. between hydroxyethyl cellulose and glycidyl trialkylammonium salt or 3-halo-2-hydroxypropyl trialkylammonium salt; and the anionic surfactant is a salt of higher alkylbenzene sulphonic acid, a sulphuric acid salt of higher alkyl polyoxyethylene ether, a salt of higher α-olefin sulphonic acid or a sulphuric acid salt of higher alcohol.

Pref. denatured hydroxycellulose is of formula (I) (where R_{1-3} and R_3 are (II);



(I)



R_{4-6} are H or CH_3; R_{7-9} are CH_3, C_2H_5 or C_3H_7; X is halogen; m, n and q are 0-10; the ave. value of m+n+q is 1-3 per unit glucose unit; p = 1-3, and its ave. value per unit glucose radical is 0.1-0.8 and l = 100-2000). Specif. the glycidyl trialkylammonium salt is glycidyl trimethyl ammonium chloride, glycidyl methyldiethyl ammonium chloride, etc.; the 3-halo-2-hydroxypropyl trialkyl ammonium salt is 3-chloro-2-hydroxypropyl trimethyl ammonium chloride, 3-chloro-2-hydroxypropyl trialkyl ammonium salt, etc.; the amt. of denatured cellulose deriv. is 0.05-0.5 wt.%, and the higher alkylbenzene sulphonate used as anionic surfactant has 8-15C alkyl chain. 26.12.77 as 156973 (7pp126)

LIOY ★ D25 62232B/34 ★J5 4087-709

Liq. detergent compsn. for tableware - contains cationically modified starch and anionic surfactant

LION FAT & OIL KK 26.12.77-JA-156974

A97 (A11) (12.07.79) C11d-03/38

The liq. detergent compsn. contains 0.05-5 wt.% of a cationically modified starch (deriv. contg. 0.01-5 wt.% quat. N, 16-35 wt.% anionic surfactant and the balance of conventional components.

Pref. the starch is a reaction prod. between starch and a glycidyl trialkylammonium salt or a 3-halo-2-hydroxypropyl trialkyl ammonium salt, or between hydroxyalkyl (esp. hydroxylethyl or hydroxypropyl) starch and a glycidyl trialkyl ammonium salt or a 3-halo-2-hydroxypropyl trialkyl ammonium salt.

Pref. the anionic surfactant is a salt of a higher alkylbenzene sulphonic acid, a salt of a higher alkyl polyoxyethylene ether sulphate, a salt of a higher α-olefinsulphonic acid or a salt of a higher alcohol sulphate.

Generation of water spots on the surface of tableware after washing and drying is prevented. 26.12.77 as 156974 (7pp126)

LIOY ★ D25 62233B/34 ★J5 4087-710

Domestic detergent liq. avoiding spots on dry objects - contains a hydrolysate of protein denatured by cations contg. quat. nitrogen, and anionic surfactant

LION FAT & OIL KK 26.12.77-JA-156975

(12.07.79) C11d-03/38

The detergent consists of 0.05-5 wt.% hydrolysate of a protein denatured by cations contg. 2-5 wt.% quat. nitrogen, 16-35 wt.% anionic surfactant, and balance conventional components. Pref., the hydrolysate is a reaction prod. of a hydrolysate of a protein and glycidyl trialkyl ammonium salt or 3-halo-2-hydroxypropyl-trialkyl ammonium salt; and the anionic surfactant is a salt of higher alkylbenzene sulphonic acid, a sulphuric salt of higher alkyl polyoxyethylene ether, a salt of higher α-olefin sulphonic acid or a salt of higher alcohol sulphate.

Pref. hydrolysate is prepd. by allowing glycidyl trialkyl ammonium salt or 3-halo-2-hydroxypropyl trialkyl ammonium salt to react with an oligopeptide or polypeptide of mol. wt. 100-50,000 obtd. by the hydrolysis of natural protein such as collagen, keratin, fibroin, or casein using enzyme, acid or alkali. The glycidyl trialkylammonium salt is glycidyl trimethyl ammonium chloride, etc. and the 3-halo-2-hydroxypropyl trialkyl ammonium salt is 3-chloro-2-hydroxypropyl triethylammonium chloride etc. 26. 12. 77 as 156975 (8pp126)

LIOY ★ D25 62452B/34 ★J5 4088-906
Liquid cleaner compsn. for tableware - contains alkyl benzene sulphonic acid salt, alkoxy (poly)oxyethylene sulphonic acid salt and alkoxy polyoxyethylene cpd.
LION FAT & OIL KK 27.12.77-JA-156698
A97 E12 (14.07.79) C11d-01/83

The compsn. contains 15-40 wt. % of the sum of following 3 components: (a) R^1-C_6H_4-SO_3M, (b) R^2O-$(CH_2CH_2O)_n$-SO_3M and (c) R^3O-$(CH_2CH_2O)_m$-H (where R^1 is straight chain 10-14C alkyl, R^2 is 8-15C alkyl, R^3 is 8-12C alkyl, n = 1-5, m = 10-20, M is alkali metal or Mg, (a)/(a+b+c)= 0.5-0.8 (by wt.), (b)/(a+b+c)=0.1-0.4 (by wt.) and (c)/(a+b+c)-0.05-0.2 (by wt.)).

The compsn. is suitable for cleaning tableware. It has high foaming ability and high cleaning power, and is preservable clearly at a low temp. for long period. 27. 12. 77 as 156698 (5pp170)

TSUM ★ D25 62453B/34 ★J5 4088-907
Lavatory cleaning compsn. - includes a pyridine cpd., and an N-substd. phthalimide, -tetra:hydro phthalimide or N-substd. carbodiimide
TSURUMI SODA KK (HOKK) 27.12.77-JA-156717
E19 (14.07.79) C11d-07/34

The cleaner contains a cpd. (A) selected from (1) Na (2-pyridylthio-1-oxide) and (2) bis-(1-oxy-2-pyridyl)-disulphide and a cpd. (B) selected from (3) N-(dichlorofluoro-methylthio)-phthalimide, (4) N-(trichloromethylthio)-phthalimide, (5) N-(trichloromethylthio)-tetrahydrophthalimide and (6) N-(1,1,2,2-tetrahydroethylthio)-4-cyclohexene-1,2-carbodimide as effective components.

Pref. the cleaner is used in amt. > 20 ppm (esp. 200-500 ppm) w.r.t. the treatment matter. The wt. ratio of (A) : (B) is pref. 9.9 : 0.1-0.1-9.9 (esp. 8 : 2-2 : 8).

In an example, 10 pts. wt. glyoxal, 3 pts. wt. cpd. (1), 3 pts. wt. cpd. (3), 20 pts. wt. malic acid, 2 pts. wt. perfume, 5 pts. wt. surfactant and 57 pts. wt. water are mixed homogeneously.

It is suitable for cleaning lavatories or buses, trains, ships, aeroplanes, etc. and raw sewage of cattle. It has good cleaning power, and prevents emission of offensive odours. 27. 12. 77 as 156717 (3pp170)

SOLV D25 07496W/05 =J7 9020-995
Water-soluble poly(alpha-hydroxy-acrylate) salts - prepd from dichloropropionic acid by gas-phase dehydrochlorination etc.
SOLVAY & CIE 18.07.73-LU-068037
*A14 (A91) (26.07.79) *BE-817-678 C07c-57/06 C08f-02/10 C08f-20/04 +C08f-08/26*

Water-soluble salts of poly(α-hydroxyacrylic acid) and its alkyl derivs. are prepd. by (a) subjecting α, β-dichloropropionic acid or its alkyl derivs. to gas-phase thermal dehydrochlorination in the presence of a catalyst to form the corresp. α-chloroacrylic acid, (b) condensing out the latter and treating it with H_2O in the presence of a polymerisation catalyst, and (c) reacting the solid products with an aqs. soln. of an alkali metal or ammonium hydroxide.

The salts are polyelectrolytes useful as sequestering agents and detergent builders (see BE776705). Stage (a) avoids the use of alkali (C.f. DT2061584) so that the amt. of caustic alkali required is reduced. 15.7.74 as 080286 (clg. 18.7.73-LU-068037) C08f-8/26, 2/10, 20/04, C07c-57/06 (26.7.79) SOLVAY & CIE (3pp)(J50043187)

FMCC D25 42078V/23 =SU -632-306
Rinsing compsn for dish washingmachines - contg sodium dichloro isocyanurate dihydrate alkali metal silicate, polyphosphate builder and non ionogenic surfactant
FMC CORP 14.05.73-US-359915 (24.11.72-US-309277)
*(15.09.78) *DT2358-249 +C11d-03/06*

Compsns. stable to loss of active Cl on storage, even at higher temps. or under strongly alkaline conditions in dry or agglomerated form, contain, by wt., (a) 0.5-10% Na dichloroisocyanurate dihydrate (I), (b) 5-65% alkali metal silicate having mol. ratio M_2O:SiO_2 of 1:3.3-1, (where M is Na or K), (c) 25-60% builder and water hardness inhibitor, esp. a polyphosphate having mol. ratio R_2O:P_2O_5 1:2-1 (where R is Na or K), partic. Na tripolyphosphate, (d) 0.5-10% low-foaming non-ionogenic surfactant compatible with (a) and opt. (e) 0-60% filler, esp. Na_2CO_3 and/or Na_2SO_4.

Pref. agglomerated compsn. contains (a) 0.5-10% (I), (b) 10-15% Na silicate having 2.4 to 3.22 SiO_2:Na_2O mol. ratio; (c) 25-60 (calc as anhydrous prod.) polyphosphate; (d) 1-10% surfactant; (e) 0-55% (calc. as anhydrous prod) filler; and (f) 5-20% water. The water may be added as an aq. Na silicate soln. Liquid surfactant may be added to dry mixt. either with or separately from aq. silicate soln. Corliss, D.S., Pacheko, J.F. Bul. 41/5.11.78. 23.11.73 as 972053 (6pp)

KAOS D25 26988A/15 =US 4163-732
Detergent compsn. contg. aluminosilicate in place of poly:phosphate - pref. together with polyoxyethylene-contg. surfactant and phosphate, amino poly:acetate, hydroxy carbonate or polymer electrolyte salts
KAO SOAP KK 06.12.76-JA-146727
*A97 E33 (07.08.79) *BE-861-414 C11d-03/36 +C11d-07/36*

A detergent compsn. is prepd. contg. 3-95wt. % of a water-insoluble phosphorus-contg. alkali metal alumino-silicate of formula $x(M_2O).Al_2O_3.y(SiO_2).z(P_2O_5).w(H_2O)$.

In the formula, M is a sodium or potassium; x, y, z and w are the mole numbers of the respective components such that $0.50 \leqslant x \leqslant 1.10$, $0.80 \leqslant y < 2.50$, and $0.05 \leqslant z \leqslant 0.80$, and no. is 0 or an opt. positive number. The compsn. further contains 1-50 wt. % of a water-soluble anionic-, nonionic- or amphoteric organic surfactant or their mixts. 0-50 wt. % of water-soluble alkali metal builder salt or their mixts; and 1-50 wt. % of a water-soluble alkali metal silicate, carbonate, sulphate or their mixts.

The compsns. prepd. avoids the use of sodium tripolyphosphate as a builder, and thus reduces the eutrophication problems of lakes and rivers. 21. 11. 77 as 853245 (6pp931)

See Also

D22 US 4163796

CPI INDEXES

LERTING PATENTEE INDEX (II)

eekly by section and overall, lists all current patents in atentee code order and, within a given patentee, in earliest riority date order. The first line gives patentee code, arliest priority date, patentee name, CPI classes and finally e current patent number. The second line gives the first art of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L   A93  *DT 2602-948
    Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L   A93 L02(A21)  *DT 2602-947
    Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Veekly only. Headings are all the CPI lasses within the section to which an lerting Bulletin relates, arranged in umerical order. Posted under each class eading is a list, in country then patent umber order, of all basic or equivalent locuments referenced or cross-eferenced under that heading.

```
    M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Veekly by section and overall, lists all ntries by accession number. Each eading consists of the accession umber in bold, followed by the CPI ection letters. There then follows a ist of all the family members, ommencing with the basic and inishing with the current week's atent. For each family member the CPI week of issue is quoted, and a lus sign indicates that a multiple riority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE  -832-423  X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF  7502-292  X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or # sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97D15M14
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

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CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                                   49862X/26  *US 3963-654
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                              49433X/26  *DT 2554-327
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                                   48076X/26  *CA -990-668
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

BBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4088-244
4-Substd. 6-epi-fortimicin A and B derivs. - 49417B '27

BBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4088-245
2-Deoxy-N-substd.-fortimicin A and B cpds. - 49527B/27

BBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4088-270
3-De-O-methyl-2-N-acyl fortimicin derivs. - 49416B/27

BBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4088-271
2'-N-acyl or alkyl fortimicin A and B derivs. - 51124B/28

GEN 12.03.75 AGENCY OF IND SCI TECH A91 D15 J01 M25 (A14) =J7
021-199
Metal collecting agent for copper, nickel, etc. - 82082X/44

GEN 05.10.76 AGENCY OF IND SCI TECH D15 =US 4163-715
Purification of waste water - 39600A/22

HPI- 14.07.75 AHP INC B04 C03 D13 J04 (C04) =CA 1059-915
Gentian violet tissue residue analysis - 66494X/35

JIN 22.12.77 AJINOMOTO KK D21 E16 *J5 4086-635
Permanent wave compsn. - 62105B/34

JIN 22.12.77 AJINOMOTO KK D13 E11 *J5 4086-666
Refreshing cola drink with stable colour and flavour - 62116B/34

JIN 23.12.77 AJINOMOTO KK B05 D16 E16 *J5 4086-692
Fermentative prodn. of L-glutamic acid - 62120B/34

JIN 26.12.77 AJINOMOTO KK B05 D16 *J5 4089-088
D-Alpha-aminoacid prodn. for pharmaceuticals - 62520B/34

JIN 26.12.77 AJINOMOTO KK B05 D16 E19 =J5 4089-089
Enzymatic d-alpha-amino acid prodn. - 91750A/51

JIN 27.12.77 AJINOMOTO KK B05 D16 E16 *J5 4089-085
L-Glutamic acid prodn. by a cultivation process - 62517B/34

KAE- 23.12.75 AKAE KIKAI KOGYO CO D15 J01 =CA 1059-950
Classifier for material suspended in water - 27054A/15

KVL= 14.12.76 AKHVLEDIANI M K D13 *SU -632-338
Tea leaf rolling machine - 62670B/34

LBR 13.02.78 BUSH BOAKE ALLEN D13 =DT 2905-327
Dehydrating organic tissues esp. foods - 59829B/33

LEX/ 02.01.78 ALEXANDERSON S D12 *SW 7800-013
Cooling animal carcass - B/34

LFA 31.01.78 ALFA-LAVAL AB D16 E17 =DT 2903-273
Continuous prodn. of ethanol - 60966B/33

LKU 10.07.74 AKZO NV D15 F09 =CA 1059-926
Paper making waste-water purificn - 08533X/05

MAN 27.12.77 AMANO PHARM KK B04 C03 D16 *J5 4089-082
Collecting enzyme of Rhizopus genus - 62515B/34

MCR 08.10.69 AMES CROSTA MILLS LTD D15 =GB 1324-358
Biosorption waste water treatment rotor - 41939U/30

MCY 27.04.73 AMERICAN CYANAMID CO B04 C03 D16 (D13) =J7
021-438
Isolation of antibiotic AV-290 from Streptomyces candidus - 79238V/46

MCY 19.04.74 AMERICAN CYANAMID CO A96 D22 F07 =CA 1059-853
Fibre flocked wound dressing - 53737W/32

MCY 02.12.74 AMERICAN CYANAMID CO B04 D16 =CA 1059-908
Non pathogenic live mumps vaccine - 45915X/24

MCY 02.02.78 AMERICAN CYANAMID CO B04 C03 D16 (D13) *EP ---3-
44
Animal feed supplements for increasing growth rate - 61831B/34

MPO- 21.04.75 AMERICAN POTATO CO D13 =GB 1550-884
Dried potato rice products - 84367X/45

NIS 23.03.76 ANIC SPA D15 M25 =GB 1550-756
Treating waste water to remove transition elements, esp. vanadium - 68835Y/39

NIS 06.12.77 ANIC SPA A96 B07 D21 (B04) =J5 4086-610
Base for dermatological ointments and creams - 44325B/24

NIS 03.01.78 ANIC SPA B05 D23 E17 =NO 7803-994
Methyl-heptenone prepn. for use as terpene intermediate - 45685B/25

NIS 03.01.78 ANIC SPA B05 D23 E17 =SW 7900-024
Methyl-heptenone prepn. for use as terpene intermediate - 45685B/25

REN- 11.02.78 ARENCO-BMD MASCHFAB D18 =DT 2805-871
Scraping treatment for leather hides - 91807A/51

RIT/ 20.12.77 ARITA J D22 E36 (E16 E17 E35) *J5 4086-625
Deodorisation appts. for toilets, drains, etc. - 62098B/34

RIZ 15.10.74 ARIZONA CHEMICAL CO D23 E13 =CA 1060-034
Extraction and recovery of cineole - 84807W/51

SAG 09.11.77 ASAHI GLASS KK A85 D15 J03 (A14 A91) #FR 2408-383
Cation exchange resin of fluorinated polymer - 70573A/39

SAH 23.12.77 ASAHI CHEMICAL IND KK D13 *J5 4086-653
Natural fruit juice with increased bitterness - 62112B/34

ACK- 02.02.78 BACKUS SORMAC BV D14 =NL 7801-203
Topping, tailing and/or cutting vegetables such as carrots or peppers - 60234B/33

ADI 05.07.75 BASF AG B05 D21 =IL --49-742
Synergistic insect repellent compsns. - 05578Y/04

ADI 26.01.78 BASF AG A60 D18 E16 G02 (A82) *EP ---3-516
Stabilising hydrazine crosslinking agents - 61792B/34

ADI 29.12.78 BASF AG A97 D18 (A25) *DS 2856-628
Dyeing of grain leather with anionic dyes - 61576B/34

AEC- 12.01.78 BAECK ENG D15 =GB 2014-124
Sepg. pig slurry into clean water and compost - 29788B/16

BAKP 15.02.78 BAKER PERKINS HOLDI D11 =DT 2906-082
Bowl mixer with rotary and planetary action agitator - 44099B/24

*BARA/ 05.07.78 BARABAS J D13 *CS 7804-458
Milk protein spray-dried concentrate prodn. - B/34

*BARA/ 05.07.78 BARABAS J D13 *CS 7804-459
Milk proteins dry concentrate prodn. - B/34

*BATT 14.02.78 BATTELLE MEMORIAL C02 D13 *EP ---3-717
Lactoyl-urea and n-methylol-lactoyl urea prepn. - 61866B/34

*BEAF 27.05.77 BEATRICE FOODS CO B04 C03 D16 (D13) *ZA 7802-875
Stable freeze-dried Lowenstein-Jensen medium - 63141B/34

BEAF 08.02.78 BEATRICE FOODS CO C03 D13 =US 4163-804
Expandable pelletised animal part-derived thermoplastic compsn. prepn. - 60130B/33

BEEC 20.04.74 BEECHAM GROUP LTD B02 C02 D16 =IL --47-087
Clavulanic acids and derivs - 72840W/44

BEEC 20.04.74 BEECHAM GROUP LTD B02 C02 D16 =NO 7901-956
Clavulanic acids and derivs - 72840W/44

BEEC 29.07.75 BEECHAM GROUP LTD B02 D22 =IL --50-080
Aza bicycloheptanes inhibitors of beta:lactamase - 07566Y/05

BEHW 10.06.75 BEHRINGWERKE AG B04 D16 =GB 1551-064
Stable microbial clumping factor - 96508X/52

BENC 04.01.78 BENCKISER-KNAPSACK D15 =DK 7805-364
Municipal and industrial sludge thickening - 53048B/29

*BERE/ 13.02.78 BERENTS A D14 *DT 2805-942
Homogeniser esp. for mayonnaise creams and emulsions - 61649B/34

*BEST- 10.11.77 MASCHINENFAB BESTA D15 *FR 2408-553
Reception bunker for rubbish partic. from waste water screens - 61889B/34

*BIOL= 06.01.77 BIOLOG ENG RES INST D16 *SU -632-384
Turbo-ejector for aerated liquid - 62689B/34

BIOS- 28.12.73 BIOSPHERICS INC B04 D16 J04 K08 =DS 2460-599
Rapid identification of microorganisms - 48003W/29

*BIOT- 11.02.78 GES BIOTECH FORSCH D16 E13 H01 *DT 2805-823
Oil extn. by flooding with water - 61639B/34

BLUE- 21.12.77 BLUE WING CORP C03 D13 (C04) =BR 7808-461
Dry fertiliser, animal feed or human feed prodn. - 47150B/26

*BLUE- 03.04.78 BLUE CROSS LAB D14 E11 (D23) *US 4163-676
Pump sprayable lecithin pan lubricant - 63023B/34

BOEF 14.12.77 BOEHRINGER MANNHEIM GMBH B04 D16 =J5 4089-015
Storage-stable cholesterol:oxidase preparations - 56929A/32

*BOGD/ 19.11.75 BOGDANOVICH N I D15 *SU -632-648
Sorbent for both organic and mineral substances in aq. wastes - 62792B/34

BONA/ 05.06.75 BONACINA R D13 =IL --49-700
Fruit and peel preservation in syrup - 20436Y/12

*BORA- 14.11.77 BORAX FRANCAIS A97 D25 *FR 2408-651
Foam product esp. for cleaning very dirty hands - 61898B/34

BOSC 12.11.77 BOSCH-SIEMENS HAUS D15 =FR 2408-337
Water softening system for dishwashers - 39221B/21

BOSC- 16.12.77 BOSCO IND MECC SPA D17 =BR 7808-149
Continuous massecuite screening centrifuge - 47409B/26

*BOUR/ 10.11.77 BOURDIN M C03 D13 *FR 2408-307
Stable homogeneous animal feedstuffs - 61871B/34

BRIM 14.02.75 BRISTOL MYERS CO D25 E34 G04 =CA 1059-866
Two-part drain cleaning compsn. - 55916X/29

BRIM 28.08.75 BRISTOL MYERS CO B04 C03 D16 =IL --50-357
Complex glycopeptide antibiotics Bu-2231 A and B - 14578Y/09

BROS- 01.07.77 BROSTE IND AS D12 =ZA 7803-769
Smoke flavoured fish prodn. - 02460B/02

BRTA 18.08.75 BRIT AMER TOBACCO LTD D18 =GB 1550-835
Processing cut tobacco stalks and leaves - 16743Y/10

BRTA 01.12.77 BRIT AMER TOBACCO LTD A88 D18 E13 #US 4163-452
Filter for nitric oxide sepn. from tobacco smoke - 28848A/16

BRTO 08.01.73 BOC LTD D15 =US 4163-712
Sewage, river, and fish breeding water purificn - 54108V/30

*BRTO 13.05.75 BOC LTD D15 *GB 1551-005
Oxygenation of liq. sewage - 61923B/34

BRTO 04.02.77 BOC LIMITED D15 =ZA 7800-262
Single tank purificn. of waste water with oxygen - 40439A/23

BRUU/ 11.01.78 BRUUN B A Z C03 D13 #BR 7800-178
Plant fodder treatment process - 46178A/26

BUCL 25.10.77 BUCKMAN LABS INC A97 D15 E11 M14 =US 4163-733
Compsn. used to prevent corrosion and incrustation in aq. systems - 44129A/25

BURR- 10.02.78 BURRUS F J & CIE D18 =DT 2904-570
Paper tube for making hand-filled filter tipped cigarette - 44059B/24

*CADB 19.05.77 CADBURY TYPHOO LTD D13 *ZA 7802-788
Dried food prod. - 63140B/34

CALG 23.09.74 CALGON CORP D15 E16 J05 =CA 1059-869
Scale prevention in steam generators - 39736X/21

CALI 31.05.77 CHEVRON RESEARCH CO C02 D13 E13 (E16) =FR 2408-652
Increasing microbial cellulose fermentation rate - 72263A/40

• CALL/ 21.04.77 CALLEN D M D11 *US 4163-806
Unbaked cheese cake made from cream cheese - 63087B/34
• CALP- 31.07.78 CALIFORNIA PROC MAC D14 *ZA 7804-322
Appts. for bisecting and pitting drupe-type fruits - B/34
CANP 25.03.75 CANADA PACKERS LTD B04 C03 D16 =CA 1059-937
Deoxyribonuclease purification - 03944A/02
CARG- 22.10.77 CARGO FLEET CHEM CO D25 E19 F06 =J5 4088-398
Concentrate of quaternary ammonium cpd. and oily material - 31587B/17
• CECH/ 03.08.78 CECH J D18 *CS 7805-102
Cutting roller for leather and hides processing - B/34
CELA 09.05.74 CELANESE CORP D15 =CA 1060-126
Anaerobic biological purification of waste waters - 79114W/48
CELF- 11.08.77 CELFIL CO D18 F09 =ZA 7804-446
Mfr. of paper band for cigarette filter tips - 89704A/50
CHAL 12.12.77 MACHINES CHAMBON D17 =BR 7808-009
Drying tunnel esp. for moulded moist sugar lumps - 24008B/13
CHAM- 08.12.77 MACHINES CHAMBON D17 =BR 7808-010
Infrared preheat of sugar lumps between moulding and drying - 24007B/13
CHIN 09.07.73 CHINOIN GYOGYSZER B02 C02 D13 E13 =US 4163-746
Isoflavone derivs for mixing with feedstuffs - 08505W/05
• CHIY 14.02.78 CHIYODA CHEM ENG CO D15 *DT 2905-371
Biological sewage treatment by downward flow through tank - 61765B/34
• CHMI= 06.11.74 CHEM MINER RAW MATE D15 J03 *SU -632-658
Recycle or waste water, e.g. from concn. works purificn. - 62802B/34
CIBA 24.09.73 CIBA GEIGY AG B03 C02 D22 (D13) =CS 7406-554
N-(4-or 5-nitro-2-imidazolyl)-N,N'-alkylene-(thio)ureas - 22825W/14
CIBA 24.09.73 CIBA GEIGY AG B03 C02 D22 (D13) =CS 7704-703
N-(4-or 5-nitro-2-imidazolyl)-N,N'-alkylene-(thio)ureas - 22825W/14
CIBA 24.09.73 CIBA GEIGY AG B03 C02 D22 (D13) =CS 7704-704
N-(4-or 5-nitro-2-imidazolyl)-N,N'-alkylene-(thio)ureas - 22825W/14
CIBA 10.06.75 CIBA GEIGY AG A97 D25 (A14) =CA 1059-864
Detergent or soap for washing cellulosic textiles - 00300Y/01
CIBA 07.07.77 CIBA GEIGY AG A41 B07 D25 E13 (A18 A81 B04 D21) =ZA 7803-881
Monomeric vinyl ether(s) of hydantoin(s) - 04555B/03
• CIBA 09.02.78 CIBA GEIGY AG A23 C03 D21 F06 (A87 A96 A97) *DT 2904-395
Anionic sulphonated polyester dispersant prepn. - 61734B/34
CLEV- 08.12.77 CLEVEPAK CORP D15 #ZA 7707-323
Sewage aeration device - 47376B/26
CLEV- 08.12.77 CLEVEPAK CORP D15 #ZA 7707-324
Sewage aeration device backflushing - 47377B/26
CLOR- 06.02.78 CLOROX CO D25 E34 =DT 2904-954
Built aq. bleaching compsns. - 36993B/19
• COGG/ 22.06.77 COGGER M D13 *US 4163-472
Yogurt maker having heat sink and fermentation compartment - 62985B/34
COLG 27.12.76 COLGATE PALMOLIVE CO B05 D21 =ZA 7707-063
Non-staining oral hygiene compsns. - 30284A/17
COLG 27.12.76 COLGATE PALMOLIVE CO B05 D21 =ZA 7707-244
Non-staining oral hygiene compsns. - 30312A/17
COLG 03.01.77 COLGATE PALMOLIVE CO D22 =ZA 7707-500
Elastic fastener tab for disposable diaper - 19359A/10
COLG 25.10.77 COLGATE PALMOLIVE CO D21 E34 =J5 4086-631
Deodorant stick based on alkali metal bi:carbonate - 18051B/10
COOK/ 03.09.74 COOK L C D18 =CA 1059-743
Smoking material contg. ground nut shells - 21205X/12
CORP 10.04.73 CPC INTERNATIONAL INC D17 =DS 2417-639
Granular starch enzymatic solubilisation - 74688V/43
CORP 22.01.79 CPC INTERNATIONAL INC D17 =GB 2014-149
Conc. sugar syrup derived from starch - 39026B/21
CSIR 18.07.77 COMMONWEALTH SCIENT ORG D14 =ZA 7804-053
Threshing drum for stripping haulm from vegetable matter - 11282B/06

DAII 11.09.71 DAIICHI KOGYO SEIYA D24 =GB 1399-927
Detergent compsn for use in washing machines - 17591U/13
DAII- 28.09.76 DAI-ICHI CRODA CHEM B07 D23 (D21) =J7 9021-207
Allergen-free lanolin wax - 25706A/14
• DAIL 21.12.77 DAICEL KK D13 E17 (E14) *J5 4086-650
Potato storage - 62110B/34
• DECH- 09.02.78 DECHEMA DEUTSCHE GE A96 B04 D16 *DT 2805-366
Protein e.g. enzyme immobilisation on porous carrier - 61603B/34
DEJI- 14.11.77 DEJ INT RES CO A97 D13 =FR 2408-607
Caffeine removal from carbon di:oxide extracts - 37162B/20
• DELK- 29.05.78 DELKOR TECH PTY LTD D15 J01 *ZA 7803-061
Flocculating appts. and method - B/34
• DEPA/ 10.03.78 DEPAOLIS P U D13 *US 4163-808
Imitation mayonnaise or salad dressing - 63089B/34
• DIST- 09.11.77 DISTRIBUT IND ANODE A35 D15 M14 *FR 2408-554
Detoxicating water from surface treatment bath - 61890B/34
• DOLE/ 05.10.78 DOLEZALEK J D13 *CS 7806-464
Cheese salting - B/34
DORO 09.09.66 DORR OLIVER INC D15 =DS 1658-062
Membrane separator in a biological reactor - 33597S/23
DORO 03.01.77 DORR OLIVER INC D15 =ZA 7707-622
Treating aq. effluent by adding lime then filtering - 33483A/19
• DOWC 03.03.75 DOW CHEMICAL CO A97 D21 E14 *US 4163-718
Economical complexing agents for treating phenolic pollutants - 63040B/34
DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D22 E19 (A25 D15 D25) =J5 4089-030
Stabilised aq. antimicrobial slimicidal compsn. - 47414B/26
DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D22 F06 (D15 F09) =J5 4089-031
Aq. antimicrobial compsns. based on halogenated amide - 49389B/27
• DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D13 E16 (A25 C02 D15 E13) *US 4163-795
Stabilising aq. antimicrobial alpha halo amide compsns. - 63080B/34
DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D22 E19 (A25 D15 D25) =US 4163-796
Stabilised aq. antimicrobial slimicidal compsn. - 47414B/26
• DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D22 E16 (A25 C02 D15 E13) *US 4163-797
Stabilising alpha halo:amide antimicrobial aq. solns. - 63081B/34
DOWC 14.12.77 DOW CHEMICAL CO A97 C03 D22 F06 (D15 F09) =US 4163-798
Aq. antimicrobial compsns. based on halogenated amide - 49389B/27
DPAR- 19.08.72 ETS DU PAROY D13 E35 =J7 9021-423
Chemical peeling of fruit and vegetables - 03930V/03
• DRIA- 11.02.78 DRIAM METALLPRODUKT D14 *DT 2805-801
Granulates esp. pastilles coated and dried in revolving drum - 61638B/34
• DUPO 25.04.77 DU PONT DE NEMOURS CO D16 *US 4163-692
Growing edible Fusarium yeast on low-phosphate medium - 63032B/34
• DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 *DT 2905-844
Sepn. of creatine kinase isoenzyme(s) - 61783B/34

EBAI 04.10.74 EBARA INFILCO KK D15 J01 =J5 1040-658
Rapid purificn. appts. for liquids e.g. water - 62570B/34
• EBAI 04.10.74 EBARA INFILCO KK D15 J01 *J7 9021-012
Rapid purificn. appts. for liquids e.g. water - 62570B/34
• EBAI 00.00.77 EBARA INFILCO KK A88 D15 J01 *J5 4087-976
Precoat-type filter - 62301B/34
• EBAI 22.12.77 EBARA INFILCO KK A88 D15 J01 *J5 4086-876
Water filtration to reduce pipe corrosion - 62134B/34
• EBAI 22.12.77 EBARA INFILCO KK A88 D15 J01 (A13) *J5 4086-877
Filtration process using precoated layer - 62135B/34
• EBAR 24.12.77 EBARA MFG KK D15 *J5 4087-679
Automatic control of liquid treating appts. - 62213B/34
ECCH- 08.04.72 EC CHEMICAL INDS CO LTD A21 D15 G04 =J7 9021-312
Coagulating agents and viscosity modifiers - 64283U/43
ECKR 05.05.75 ECKRICH P & SONS INC D12 #CA 1059-821
Bacon prodn. from pork belly - 60331W/36
ELEX 17.10.77 ELECTROLUX AB D22 =J5 4088-686
Autoclave sterilisation by evaporating formalin - 31887B/17
ELEX 17.10.77 ELECTROLUX AB D22 =J5 4088-687
Autoclave sterilisation by evaporating formalin - 31887B/17
ELIL 02.10.75 ELI LILLY & CO B04 C03 D16 =SU -632-307
Antifungal antibiotic A-22082 - 25226Y/15
ELLI- 07.02.78 ELLIOTT G H CO D23 (D18) #GB 1550-801
Fat recovery from hide fleshings and trimmings - 45533A/25
ENFO/ 04.10.77 ENFORS S O D16 F09 =J5 4089-079
Microbiological modification of hardwood - 31979B/17
ERBA 09.02.78 FARMITALIA ERBA C B03 D16 =DT 2904-186
Anthracycline glycoside antitumour and antibacterial derivs. - 59812B/33
ERIC/ 13.02.78 ERICKSON L A91 D15 =DT 2905-467
Processing of waste waters - 54379B/29
ERIC/ 13.02.78 ERICKSON L G A91 D15 =GB 2014-125
Processing of waste waters - 54379B/29
ESSO 15.12.77 EXXON RES & ENG CO D15 J01 =US 4163-717
Regeneration of anion and cation exchanger resins - 47439B/26
ETHI 26.10.73 ETHICON INC A96 D22 =CA 1059-857
Surgical needle/thread combination - 30904W/19
ETHI 15.12.76 ETHICON INC A87 D22 F06 =ZA 7707-436
Absorbent multifilament suture with improved knotting properties - 48092A/27
ETHI 09.02.78 ETHICON INC A25 D22 F01 (A96) #DT 2805-520
Synthetic absorbable sutures of isomorphic poly:oxalate copolymer - 19773B/10

FABR 21.12.76 FABRE P SA B04 D16 =GB 1551-178
Adjuvant for non-specific immuno-stimulation and vaccine potentiation - 42224A/24
FARB 28.11.74 BAYER AG B02 C02 D13 =IL --48-538
Alpha-(imidazolidinonyl carbonylamino) penicillins and cephalosporins - 46019X/25
FARB 24.06.75 BAYER AG B02 C02 D13 (D22) =IL --49-846
Alpha-(imidazolidinone carbonylamino) penicillins - 03902Y/03
FARB 12.08.75 BAYER AG D15 =DS 2535-837
Oxygen addn. regulation in water and sewage purificn. - 11126Y/07
FARB 28.05.76 BAYER AG A97 D22 E16 G02 (E14 G03) =DS 2623-959
Antimicrobial paste compsn. e.g. for paints and adhesives - 84734Y/48
FARB 01.12.77 BAYER AG B02 C02 D13 =J5 4086-603
Antibacterial agents and animal feed additives - 44172B/24
FARB 17.01.78 BAYER AG A82 D18 E37 F08 =GB 2014-157
Pigment preparations for (imitation) leather dressings - 54767B/30

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) *DT 2806-019
Azulminic acid stabilised with carbonyl cpds. - 61658B/34

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) *DT 2806-020
Modified azulminic acid contg. amino and carboxyl gps. - 61659B/34

FARB 14.02.78 BAYER AG C03 D16 E13 (D13 D17) =DT 2806-216
Continuous sucrose conversion to iso:maltulose - 22393B/12

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =EP ---3-571
Modified azulminic acid contg. amino and carboxyl gps. - 61659B/34

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =EP ---3-585
Azulminic acid stabilised with carbonyl cpds. - 61658B/34

FARH 11.09.75 HOECHST AG B04 C03 D13 =CS 7605-894
Salinomycin and salts an esters for feed utilisation improvment - 19921Y/12

FARH 13.09.75 HOECHST AG D21 =IL --50-475
Hair growth promotion with human placenta lactogen - 20275Y/12

FARH 10.10.75 HOECHST AG A88 D18 F09 (A11 A82) =DS 2644-056
Cigarette filter contg. modified paper - 27532Y/16

FARH 25.07.77 HOECHST AG A60 D22 E16 M25 (D21) =ZA 7804-190
Non-symmetrical sec. ether-amine derivs. - 10263B/06

FARH 05.12.77 HOECHST AG D25 E34 =J5 4086-500
Sodium tri:poly:phosphate for detergent slurry use - 44361B/24

*FARH 11.02.78 HOECHST AG D15 *DT 2805-793
Sewage purification with admixed sludge in activation chamber - 61635B/34

*FARH 11.02.78 HOECHST AG D15 *DT 2805-794
Sewage purification with admixed sludge in activation reactor - 61636B/34

FARH 11.02.78 HOECHST AG D15 =EP ---3-547
Sewage purification with admixed sludge in activation chamber - 61635B/34

FARH 11.02.78 HOECHST AG D15 =EP ---3-548
Sewage purification with admixed sludge in activation reactor - 61636B/34

*FARH 14.02.78 HOECHST AG A96 B07 D21 (A14) *DT 2806-098
Thickening cosmetic, pharmaceutical compsns. etc. - 61669B/34

FAUN/ 05.12.73 FAUNCE F R A96 D21 =CA 1059-803
Device for renewing defective teeth - 44701W/27

FELT- 22.10.73 FELTEX LTD D15 F06 =US 4163-716
Contaminated water purif - 24133W/14

*FERR/ 03.08.78 FERRARI L D13 *GB 2014-032
Prepn. of dairy prods. - 61929B/34

FIND- 29.11.76 PROD FINDUS SA D14 =CA 1059-858
Machine for trimming vegetables etc. partic. cauliflower - 15940A/09

FIRM 07.06.73 FIRMENICH SA D25 E17 =DS 2427-608
Undeca-1,3-trans, 5 cis or trans triene prepn - 89517V/52

FIRM 13.05.76 FIRMENICH SA B05 D23 E15 (D13) =DS 2721-002
(2)-(N)-alkyl-cyclopentanone derivs. - 85082Y/48

FIRM 28.07.76 FIRMENICH SA D23 E15 =US 4163-866
Alpha ambrinol prodn. - 10713A/06

FIRM 06.12.77 FIRMENICH SA B07 C03 D13 E13 (B03) =J5 4089-068
3-Methyl-1,2,4-trithiane used in aromatising compsns. - 44320B/24

*FISH= 03.03.77 FISHING FLEET DES D12 *SU -632-336
Smoked fish head remover - 62668B/34

FMCC 24.11.72 FMC CORP D25 =SU -632-306
Rinsing compsn for dish washingmachines - 42078V/23

FMCC 30.12.77 FMC CORP D22 E17 =NO 7804-429
Aliphatic di:peroxy-di:carboxylic acid prodn. - 29650B/15

*FORE= 27.12.76 FORESTRY TIMBER PRO A88 D16 *SU -632-339
Washing and grading apparatus for fungi - 62671B/34

FRAN/ 16.12.77 FRANEK F A96 B04 D16 J04 =CS 7708-437
Protein e.g. immunoglobulin immobilisation agent - 49395B/27

*FREU 31.01.78 FREUDENBERG, CARL FA A96 D21 *DT 2804-024
Hair- and skin-care cosmetic - 61583B/34

FRIT- 04.10.77 FRITZSHE DODGE & O D13 =J5 4089-067
Prepn. of aroma material esp. cocoa substitute or extender - 30034B/16

FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =EP ---3-544
Anticariogenic foods and pharmaceuticals - 58294B/32

FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =EP ---3-545
Anticariogenic foods and pharmaceuticals - 58290B/32

*FUJC 26.12.77 FUJI CHEMICAL IND KK A11 D13 (D15) *J5 4087-786
Quat. nitrogen-contg. cellulose derivs. prodn. - 62277B/34

*FUJC 26.12.77 FUJI CHEMICAL IND KK A11 D13 (D15) *J5 4087-787
Quat. nitrogen-contg. cellulose derivs. prodn. - 62278B/34

*FUJI- 24.12.77 FUJI SEITO KK D15 *J5 4087-679
Automatic control of liquid treating appts. - 62213B/34

GENO 02.01.78 GENERAL FOODS CORP D13 #SW 7800-041
Protein isolate or micelle prepn. - 27209A/15

GENO 03.02.78 GENERAL FOODS CORP C03 D13 (D12) =NL 7900-765
Proteinaceous fibres having meat-like consistency - 42430B/23

*GEOC- 15.02.78 GENERALE OCCIDENTAL D13 *DT 2905-058
Fresh spice plant preservation - 61756B/34

GESJ 11.04.72 GENERAL SIGNAL CORP D15 =DS 2263-752
Liquid waste stabilization plant - 69407U/46

GIVA 12.12.77 GIVAUDAN L & CIE SA D23 E15 =BR 7808-067
1-Methyl-1-acetoxy-cyclohexane derivs. - 47481B/26

*GIVA 09.02.78 GIVAUDAN L & CIE SA D23 E13 (D13) *EP ---3-515
Mega-stigman-oxide and oxa-bi:cyclooctane perfumes and/or flavourants - 61791B/34

GOLD- 04.06.75 GOLDA INC D22 =CA 1059-854
Surgical chest dressing - 57543X/30

*GOLD/ 19.07.78 GOLDSCHER K J D13 *US 4163-803
Turmeric compsn. contg. glycine - 63085B/34

GREG/ 07.11.75 GREGOR H P A88 B04 D16 J01 (A11) =US 4163-714
Ultrafiltration membranes coupled to ligands - 36693Y/21

GREO 09.11.77 GREFCO INC D16 =FR 2408-379
Reducing the beer-soluble iron content of diatomaceous earth - 21906B/11

*GROZ= 13.06.77 GROZNY PROMAVTOMATI D16 J01 *SU -632-370
Evaporation control for chemical engineering and foodstuffs industry - 62675B/34

HAAR 31.03.71 HAARMANN & REIMER GMBH D23 E14 =US 4163-759
Aromatic hydroxy aldehydes prepn - 68205T/43

*HAVL/ 09.12.77 HAVLINOVA B D25 E13 (E12) *CS 7708-251
Surfactants prepn. from solns. of saccharin acids salts - B/34

HAYA/ 24.07.74 HAYASHI N D13 =J5 1015-665
Mfg. laver food with excellent flavour and taste - 62603B/34

*HAYA/ 24.07.74 HAYASHI N D13 *J7 9021-428
Mfg. laver food with excellent flavour and taste - 62603B/34

HAYB 30.04.68 HAYASHIBARA KK D16 =J7 9021-420
Long-and short - chain amylose prodn from starch - 05456R/04

HEBK/ 02.08.77 HEBKY J B02 C02 D13 =CS 7705-118
2-Formyl-quinoxaline-1,4-di:oxide-cyano-acetyl hydrazone derivs. - 14438B/08

HENK 02.01.71 HENKEL KG AUF AKTIEN D23 E17 =DS 2100-022
Sepn of olein stearine mixts - 50189T/32

HENK 01.12.76 HENKEL KG AUF AKTIEN A97 D25 (A91) =ZA 7707-108
Machine washing and cleaning of solid articles - 33405A/19

HENK 16.07.77 HENKEL KG AUF AKTIEN D18 E33 =ZA 7804-029
Additives for defatting and tanning in leather mfr. - 10088B/06

HENK 19.12.77 HENKEL KG AUF AKTIEN D25 E19 F06 =BR 7808-290
Bleaching compsn. for textiles - 47356B/26

HENK 23.12.77 HENKEL KG AUF AKTIEN D23 E17 (D21 D25) =BR 7808-390
3,5,5-Tri:methyl hexanoic acid ester(s) used as aromatic materials - 47163B/26

HENK 23.12.77 HENKEL KG AUF AKTIEN D23 E17 (D21 D25) =J5 4089-043
3,5,5-Tri:methyl hexanoic acid ester(s) used as aromatic materials - 47163B/26

*HENR/ 10.01.78 HENRIKSEN J D12 *DK 7800-098
Slaughtered poultry processing plant - B/34

*HITF 21.12.77 HITACHI SHIPBLD ENGG KK D15 *J5 4086-478
Desalination device for sea water or brine - 62015B/34

*HITK 23.12.77 HITACHI METAL KK D15 E35 J01 (E36) *J5 4086-975
Incinerating cyanogen and cyanide(s) present in waste gas - 62143B/34

*HITK 23.12.77 HITACHI METAL KK D15 E35 J01 (E36) *J5 4086-976
Incinerating cyanogen and cyanide(s) present in waste gas - 62144B/34

*HITK 23.12.77 HITACHI METAL KK D15 E35 J01 (E36) *J5 4086-977
Removing cyanogen (cpds.) from sludge combustion exhaust gas - 62145B/34

*HOFF 24.01.78 HOFFMANN-LA ROCHE AG B05 D16 E17 (D13) *EP ---3-524
Dextro-arabitol sweetener prepn. - 61795B/34

*HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 *DT 2905-649
Trestatin amino sugar derivs. - 61777B/34

HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =EP ---3-616
Trestatin amino sugar derivs. - 61777B/34

*HOFS 15.02.78 HOFFMANNS STARKEFAB A97 D25 (A96) *DT 2806-450
Cleansing compsn. absorbing oil, fat and wax - 61694B/34

*HOKK 27.12.77 HOKKO CHEM IND KK D25 E19 *J5 4088-907
Lavatory cleaning compsn. - 62453B/34

*HOKK 27.12.77 HOKKO CHEM IND KK D22 E19 *J5 4088-908
Cleaning compsn. - 62454B/34

*HOKU- 21.12.77 HOKUREN NOGYO KYODO D13 E17 (E14) *J5 4086-650
Potato storage - 62110B/34

*HONE 10.02.78 HONEY BEE CORP D13 *DT 2828-582
Soft drink contains full milk - 61699B/34

*HOTZ/ 15.02.78 HOTZKY J D13 *CS 7800-994
Dry mix for juice prepn. - B/34

*HOUS- 23.12.77 HOUSE SHOKUHIN KOGY D13 *J5 4086-646
Easily soluble dried soybean milk prepn. - 62107B/34

*HOUS- 23.12.77 HOUSE SHOKUHIN KOGY D13 *J5 4086-648
Compsn. for mfg. tofu, i.e. soybean curd - 62109B/34

HUBE 03.10.73 HUBER J M CORP D21 G01 =CA 1059-705
Polymsd synthetic silica pigments for toothpastes - 25868W/16

HUBE 20.12.77 HUBER J M CORP D21 E33 =J5 4086-636
Abrasive silica compsn. for dentifrice paste - 67037A/38

*HUSQ 03.02.78 HUSQVARNA AB D13 *DT 2903-984
Protein-contg. food prodn. - 61730B/34

HUSQ 03.02.78 HUSQVARNA AB D13 =GB 2014-414
Protein-contg. food prodn. - 61730B/34

*HUSQ- 03.02.78 HUSQVARNA AB D13 *DT 2903-984
Protein-contg. food prodn. - 61730B/34
HUSQ- 03.02.78 HUSQVARNA AB D13 =NL 7900-874
Protein-contg. food prodn. - 61730B/34

ICIL 04.12.78 IMPERIAL CHEM INDS LTD C03 D22 G02 H08 (D15 G03) =BR 7808-412
1-Thiocyanato-8-substd. naphthalene biocides - 47159B/26
*ILLI- 03.10.77 ILLINOIS WATER TREA A96 B04 D16 *J5 4089-084
Passivation of enzymes - B/34
*INDF 23.03.78 INDIA COUNC OF SCI IND D15 *ZA 7801-723
Phosphate removal from organic waste water - 63133B/34
*INFL 23.03.77 INT FLAVORS & FRAGR INC D23 E15 (D18) *US 4163-737
Fragrance modifying compsns. e.g. for tobacco - 63050B/34
INFL 27.01.78 INT FLAVORS & FRAGR INC D23 E15 (D18) =GB 2014-030
1-(2,6,6-Trimethyl-1,3-cyclohexadien-1-yl)-1,3 butane-di:one - 47067B/25
INME- 20.11.75 INMEKTOR KY D14 =GB 1551-153
Root crop tip removal machine - 41078Y/23
INME- 03.02.78 IND MECC TRE-P D18 =DT 2904-079
Continuous skin fleshing machine with two opposing sections - 60265B/33
INMR 22.06.67 INST MERIEUX B04 C03 D16 =DS 1617-548
Prodn of foot and mouth disease vaccine - 37549F/00
INRG 23.10.74 INST NAT RECH AGRON D13 =SU -632-291
Purifying proteins esp from sunflower kernels - 36304X/20
ISBI- 24.08.77 ISRAEL INST BIOL RE B04 C03 D16 =FR 2408-352
Fowl cholera vaccine against Pasteurella multocida - 18510B/10
*ITAI- 28.10.77 INT AIR MONITORS LT A88 D22 J01 *GB 2014-299
Air purifying appts. - 61962B/34
ITDI- 25.11.77 INT DIAGNOSTIC TECH A96 B04 D16 J04 =J5 4086-611
Surface immunoassay with two different test surfaces - 42821B/23
*ITOS- 20.12.77 ITO SEIYU KK D21 E17 *J5 4088-215
Branched alcohol ester prepn. for cosmetic material - 62324B/34

*JAKI/ 19.05.78 JAKIMENKO L M C03 D13 *CS 7803-268
Compsn. for intensive feeding of farm animals and poultry - B/34
JOHJ 20.12.77 JOHNSON & JOHNSON D22 =BR 7808-292
Baby's disposable napkin with elastic edges - 47160B/26
JOHJ 29.12.77 JOHNSON & JOHNSON D22 F07 =BR 7808-293
Disposable diaper with shaped absorbent pad - 53123B/29
JOHO 11.02.76 JOHNSON MATTHEY LTD D23 =US 4163-750
Selective catalytic hydrogenation of vegetable or animal oils - 41755Y/24
JONE/ 19.12.75 JONES R W D15 J04 =GB 1551-049
Liquid sampling appts. for waste waters - 82661Y/46

*KANK- 23.12.77 KANKYO KAGAKU KENKY D21 *J5 4087-677
Air purificn. appts. for domestic use - 62212B/34
*KANK- 23.12.77 KANKYO KAGAKU KENKY A81 D22 E36 J01 *J5 4087-694
Granular active carbon used for air purificn. - 62223B/34
KAOS 09.04.73 KAO SOAP KK D21 =J7 9021-416
Pre-shampoo contg emulsified lanolin - 41730W/25
KAOS 06.12.76 KAO SOAP KK A97 D25 E33 =US 4163-732
Detergent compsn. contg. aluminosilicate in place of poly:phosphate - 26988A/15
KAOS 26.12.77 KAO SOAP KK D24 E12 (D25) =J5 4087-707
Soap-filled scouring pads - 49363B/27
KAOS 08.02.78 KAO SOAP KK A96 D22 F07 =DT 2841-042
Absorbent article, esp. sanitary towels, with pref. cellulose core - 20067B/11
KAOS 08.02.78 KAO SOAP KK A96 D22 F07 =GB 2014-207
Absorbent article, esp. sanitary towels, with pref. cellulose core - 20067B/11
*KAOS 15.02.78 KAO SOAP KK D25 E16 (E14) *DT 2905-207
Dry-cleaning compsn. yielding soft antistatic clothes - 61760B/34
*KDFO= 29.03.77 KRASD FOOD IND RES D17 *SU -632-953
Sugar soln. saturator - 62954B/34
*KDPO= 29.03.77 KRASD POLY D17 *SU -632-953
Sugar soln. saturator - 62954B/34
*KECH= 26.07.77 KEMER CHEM IND RES A91 D15 J01 M25 *SU -632-706
Ion exchange resins with high capacity for mercury and silver ions - 62846B/34
KEMI- 09.01.78 KEMIN IND INC C03 D13 =DK 7802-523
Stable emulsified liquid starch prod. - 52805B/29
*KEMP/ 11.02.78 KEMPTER H D23 *DT 2806-372
Coloured candle coiled into differently coloured layers - 61690B/34
*KERJ 28.06.78 KERNFORSCHUNGS JULICH B04 D16 *DS 2828-235
Recovering pure enzymes from crude tissue extracts - 61567B/34
*KIBU- 23.12.77 KIBUN KK D13 *J5 4086-662
Pudding-like dessert prepn. - 62115B/34
*KIBU- 27.12.77 KIBUN KK D16 *J5 4089-081
Culture medium produced from distillers solubles - 62514B/34
*KIFO= 07.02.77 KIEV FOOD IND TECH D11 *SU -632-334
Tunnel type baking oven - 62666B/34
*KIKK 23.12.77 KIKKOMAN SHOYU KK A97 D13 *J5 4086-697
Syoyu prepn. - 62124B/34
KIMB 01.07.77 KIMBERLY CLARK CORP A96 D22 (A25) =ZA 7803-775
Polyurethane foam type tampon enclosed in jacket - 05446B/03
KIRI- 30.03.77 KIRIN-SEAGRAM LTD B04 D16 =US 4163-780
Antitumour substance KS-2-A prepd. by fermentation - 76734A/43
*KIRS/ 11.04.77 KIRSE V KH B04 C03 D18 *SU -632-703
Hyaluronidase enzyme extn. from bull sperm - 62843B/34
*KOBA- 20.12.77 KOBAYASHI KOSE CO D21 E17 *J5 4088-215
Branched alcohol ester prepn. for cosmetic material - 62324B/34
*KOBM 24.12.77 KOBE STEEL KK D15 E34 *J5 4087-674
Treating waste water contg. thiosulphate and sulphite - 62209B/34
*KOMA/ 20.12.77 KOMATSU Y D12 *J5 4086-655
Mfg. sweet boiled carp contg. honey - 62114B/34
KONN 20.07.77 GIST-BROCADES NV A81 B04 D25 (A96 A97 D16) =DS 2831-778
Enzyme particles resistant to powdering under pressure - 06068B/04
KOPP- 10.02.78 KOPPENS MASCHINEFAB D12 =DT 2902-265
Device for pressing e.g. ground meat into disc shaped prod. - 40645B/22
KOPP- 10.02.78 KOPPENS MACHINEFABR D12 =GB 2014-081
Device for pressing e.g. ground meat into disc shaped prod. - 40645B/22
*KORE/ 11.02.77 KOREJS J D15 *CS 7700-910
Aq. effluent purification - B/34
*KORE/ 11.05.77 KOREJS J D15 *CS 7703-085
Appts. introducing air or gas into liquid - B/34
*KOSS/ 13.02.78 KOSSLER E D15 *DT 2833-816
Rake for trash screen of water intake - 61700B/34
*KURK 24.12.77 KURITA WATER IND KK D15 E31 J01 *J5 4088-653
Removal of paramagnetic material from water - 62390B/34
*KURS 22.12.77 KURARAY KK D15 *J5 4086-961
Treatment of biological, agricultural etc. waste water - 62141B/34
*KURS 22.12.77 KURARAY KK D15 *J5 4086-962
Activate sludge treatment of liquor-contg. waste - 62142B/34
KUST 05.01.78 KUSTERS E D15 F07 J01 =BR 7900-021
Self-cleaning liq. filter system - 53126B/29
KUST 05.01.78 KUSTERS E D15 F07 J01 =SW 7812-682
Self-cleaning liq. filter system - 53126B/29
KYOW 03.08.71 KYOWA FERMENTATION KK D13 E16 (E17) =J4 8023-948
Sterilising processed food - 62598B/34
*KYOW 03.08.71 KYOWA FERMENTATION KK D13 E16 (E17) *J7 9021-422
Sterilising processed food - 62598B/34
KYOW 19.10.71 KYOWA FERMENTATION KK D13 (D16) =J4 8048-660
Laver treatment - 62601B/34
*KYOW 19.10.71 KYOWA FERMENTATION KK D13 (D16) *J7 9021-426
Laver treatment - 62601B/34
KYOW 29.10.71 KYOWA FERMENTATION KK D13 (D16) =J4 8049-948
Laver treatment with enzymes - 62602B/34
*KYOW 29.10.71 KYOWA FERMENTATION KK D13 (D16) *J7 9021-427
Laver treatment with enzymes - 62602B/34
KYOW 17.04.73 KYOWA HAKKO KOGYO B03 D16 =DS 2418-349
Fortimycine B as an antibiotic - 75799V/44
KYOW 21.12.77 KYOWA FERMENTATION KK B03 D22 E13 =J5 4088-240
N-Substd.-fortimicin A derivs. - 49528B/27
KYOW 21.12.77 KYOWA FERMENTATION KK B03 C02 D22 E13 =J5 4088-241
2′-N-Substd. fortimicin A derivs. - 51129B/28
KYOW 21.12.77 KYOWA FERMENTATION KK B03 C02 D22 E13 =J5 4088-242
4,2′-Di:acyl or alkyl fortimicin B derivs. - 51130B/28
*KYOW 27.12.77 KYOWA FERMENTATION KK B05 D16 *J5 4089-086
Coenzyme-Q-10 prodn. by culturing microorganism - 62518B/34

LARS/ 30.09.66 LARSSON K B05 D22 =J7 9021-406
Hydrophilic glyceride ointment base - 88538R/48
LIFE- 12.12.77 LIFE SAVERS INC D13 =J5 4089-064
Sugarless candy with improved flavour and sweetness - 42347B/22
*LIGG- 12.10.76 LIGGETT GROUP INC D18 E13 *US 4163-453
Tobacco prods. contg. 7-hydrocarbyl:oxy-1,2 benzopyrone(s) - 62983B/34
*LIOC 22.12.77 LION DENTIFRICE KK D21 E33 L02 *J5 4086-499
Calcium phosphate-coated gypsum prodn. - 62028B/34
LIOY 14.05.75 LION FAT & OIL KK A97 D25 E17 (A25 E34) =DS 2621-088
Granular detergent and cleansing compsns. - 90946X/49
*LIOY 20.12.77 LION FAT & OIL KK A96 D21 (A11) *J5 4086-629
Cosmetic base for shampoo, hair rinse etc. - 62101B/34
*LIOY 26.12.77 LION FAT & OIL KK A97 D25 (A11) *J5 4087-708
Domestic detergent liq. avoiding spots on dry objects - 62231B/34
*LIOY 26.12.77 LION FAT & OIL KK A97 D25 (A11) *J5 4087-709
Liq. detergent compsn. for tableware - 62232B/34
*LIOY 26.12.77 LION FAT & OIL KK D25 *J5 4087-710
Domestic detergent liq. avoiding spots on dry objects - 62233B/34
*LIOY 27.12.77 LION FAT & OIL KK A97 D25 E12 *J5 4088-906
Liquid cleaner compsn. for tableware - 62452B/34
*LIST/ 11.08.77 LIST J D24 *CS 7705-317
Soap refining process - B/34
*LOBL/ 11.04.75 LOBL F B05 D16 *CS 7502-514
Antibiotic prodn. waste processing - B/34

LOGA- 06.02.78 LOGAN SRL A96 D21 E17 (A26) =DT 2831-341
Non-foaming emollient for shaving - 60235B/33

MACL/ 08.11.77 MACLENNAN M E D12 (D16) =J5 4086-695
Mycelial meat analogues and extenders - 37610B/20
*MALF/ 10.02.78 MALFANTI J B D14 (D22) *EP ---3-721
Sterilising and blanching food prod. in small pieces - 61869B/34
*MANN- 02.10.78 MANNING ENVIRONMENT D15 J04 *US 4163-392
Drawing fluid sample through conduit - 62980B/34
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-824
Ejecting cooked meat loaf from elongated mould - 12764X/07
MAYC 11.03.75 MAYER O & CO INC D11 =CA 1059-825
Loaf mould washing and release agent applicn mechanisms - 51781X/27
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-826
Meat loaf mould magazine - 17969Y/10
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-827
Multiple meat loaf mould magazine - 29780X/16
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-828
Cooking mould for meat loaf or similar product - 59681X/32
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-829
Filler for cooking moulds for meat loaf etc. - 59682X/32
MAYC 11.03.75 MAYER O & CO INC D12 =CA 1059-830
Mass prodn. of moulded cooked meat loaf etc. - 59683X/32
*MEIJ 22.12.77 MEIJI KK B02 D16 *J5 4086-694
Prodn. of antibiotic Myxin - 62122B/34
*MEIJ 14.02.78 MEIJI SEIKA KAISHA B04 D16 *DT 2905-066
Antibiotics SF-2050 and SF-2050b - 61757B/34
MEIJ 14.02.78 MEIJI SEIKA KAISHA B04 D16 =GB 2014-129
Antibiotics SF-2050 and SF-2050b - 61757B/34
MERI 05.11.69 MERCK & CO INC B03 C01 D16 =DS 2054-310
(-)-cis-1,2-epoxy propyl-phosophonic acid - 33864S/20
MERI 13.05.75 MERCK & CO INC A97 D13 (A11) =CA 1059-820
Gelling compsn. contg. xanthane- caroub gums, carboxymethyl cellulose - 16829Y/10
MERI 11.04.77 MERCK & CO INC B04 C03 D16 =ZA 7802-023
13-Hydroxy-milbemycin(s) - 56685A/31
MERI 17.11.77 MERCK & CO INC B02 C02 D13 E13 (D22) =J5 4088-291
Pen-2-em-3-carboxylic acid and derivs. and 1 sulphoxide(s) - 44337B/24
*MERI 30.01.78 MERCK & CO INC B04 C03 D16 *EP ---3-692
Heat labile enterotoxin isolated from Escherichia coli - 61853B/34
*MERI 15.03.78 MERCK & CO INC A97 D13 (A11) *US 4163-807
Stabilised fruit juice or drink - 63088B/34
METG 16.08.77 METALLGESELLSCHAFT AG C03 D13 (D17) =ZA 7803-948
Feedstuff and sugars prodn. from vegetable waste - 20108B/11
MILE 15.08.77 MILES LABORATORIES INC B04 D16 J04 =ZA 7803-915
Device for liq. control soln. prepn. - 14632B/08
*MILE 13.02.78 MILES LABORATORIES INC B04 D16 J04 *DT 2855-433
Test reagent for uric acid determn. - 61704B/34
MILE 13.02.78 MILES LABORATORIES INC B04 D16 J04 =GB 2014-155
Test reagent for uric acid determn. - 61704B/34
MINN 19.10.73 MINNESOTA MINING CO A88 D15 J01 =CA 1059-921
Separation of esp. oil in water emulsions - 82372V/47
MINN 14.11.77 MINNESOTA MINING CO A96 B04 D16 =FR 2408-618
Substrates for immobilising biologically active proteins - 39382B/21
*MIPR= 29.04.77 MINSK PRODMASH WORK D12 *SU -632-335
Livestock carcass cutter - 62667B/34
*MITR 23.12.77 MITSUBISHI RAYON KK A88 D15 J01 (A14) *J5 4087-681
Tubular semipermeable membrane prodn. - 62215B/34
MITU 08.04.72 MITSUBISHI CHEM IND KK A21 D15 G04 =J7 9021-312
Coagulating agents and viscosity modifiers - 64283U/43
MITU 08.10.74 MITSUBISHI CHEM IND KK B04 D16 =J7 9021-436
Viable sepn of tentoxin from culture tank - 41067X/22
MIZU- 01.05.74 MIZUHO KOGYO KK D15 E16 M12 =J5 0141-853
Treating waste alkaline water used for degreasing metals - 62560B/34
*MIZU- 01.05.74 MIZUHO KOGYO KK D15 E16 M12 *J7 9020-957
Treating waste alkaline water used for degreasing metals - 62560B/34
MOBA- 09.12.77 MOBA HOLDING BARNEV D12 =BR 7808-070
Device for holding and treating e.g. fowl - 48337B/26
MOBA- 09.12.77 MOBA HOLDING BARNEV D12 =BR 7808-073
Device for enclosing and modelling a fowl - 48335B/26
MOBA- 09.12.77 MOBA HOLDING BARNEV D12 =BR 7808-074
Device for hanging a fowl by the knee joint - 48334B/26
MOBA- 09.12.77 MOBA HOLDING BARNEV D12 =BR 7808-091
Device for modelling or packaging objects partic. fowls - 48336B/26
MOEB/ 24.11.77 MOEBUS O D16 E35 =DS 2752-485
Growing yeast on lactose-contg. dairy residues - 49085A/27
*MOGI= 14.03.77 MOGILEV TECHNOL D13 *SU -632-337
Condensed milk cooling and crystallising apparatus - 62669B/34
MOLE- 03.03.76 GES MOLEKULARBIOLOG D16 #IL --49-136
Recovering unicellular protein grown on methanol - 48211X/26
MOLN 21.12.77 MOLNLYCKE AB D22 =BR 7808-366
Intravaginal period sanitary tampon with extraction cord - 47149B/26
*MOMD 10.02.77 MOSCOW MEAT DAIRY INST D12 *SU -632-392
Cutter for meat grinder - 62694B/34
*MONT/ 09.11.77 MONTELS F D18 *FR 2408-438
Machine for figuring leather sheet with embossing and perforations - 61882B/34
*MORI/ 21.12.77 MORIYAMA M D13 *J5 4086-654
Calcium-contg. nutritive pickled food - 62113B/34
MOTE- 17.10.77 MOTEURS LEROY-SOMER B04 D16 J04 =FR 2408-357
Treatment of disease with negative ions - 37140B/20

*NALC 29.02.68 NALCO CHEMICAL CO A91 D15 E31 *US RE30-066
Selective removal of chromate ions from water - 62968B/34
NALC 12.02.75 NALCO CHEMICAL CO A93 D15 (A14) =CA 1059-849
Preventing subsurface seepage of stagnant water - 37685X/20
NATT 23.10.73 NAT STARCH & CHEM CORP A96 B04 C03 D16 =DS 2450-148
Pepsin inhibition using sulphonated polystyrenes - 31007W/19
NEDW/ 19.03.76 NEDWIG O D21 F07 #CA 1059-802
Bonding film for dentures - 65812W/40
NEST 23.06.75 SOC PROD NESTLE SA A97 B04 D16 #IL --47-539
Enzymes immobilised on polymers contg. aldehyde and acid gps. - 59050W/36
NEST 09.03.76 SOC PROD NESTLE SA D13 =GB 1550-746
Aromatic spice extract used for food flavouring - 57506Y/33
NEST 09.04.76 SOC PROD NESTLE SA D13 =IL --51-721
Liq. extn. of plants, esp. coffee - 74355Y/42
NEST 04.01.78 SOC PROD NESTLE SA D13 =NO 7804-384
Removing flatulent sugars from soya - 40639B/22
NEST 04.01.78 SOC PROD NESTLE SA D13 =SW 7813-453
Removing flatulent sugars from soya - 40639B/22
NEST 06.02.78 SOC PROD NESTLE SA D13 =NL 7900-913
Improving consistency of reconstituted purees esp. of vegetables - 47198B/26
*NEVE/ 20.07.78 NEVECERAL J D13 *CS 7804-847
Constant water content butter granulate prodn. - B/34
*NICH- 20.12.77 NICHINO KAGAKU KOGYO D13 *J5 4086-669
Thermostable colourant for foods - 62117B/34
*NIHS 26.12.77 NIPPON SURFACTANT KK D21 H08 *J5 4088-879
Self-emulsification oil compsns. - 62440B/34
*NIKE- 13.02.78 NIKEX NEHEZIPARI D15 *EP ---3-607
Filtration and ion exchanging column - 61816B/34
NIOC 09.07.69 NIPPON OIL KK D16 E17 =DS 1947-038
Monohydroxycarboxylic acids preparation - 06767S/04
*NISC 24.12.77 NISSAN CHEM IND KK D23 E16 *J5 4088-208
Linear unsatd. alcohol prodn. for use as perfume - 62320B/34
NISH- 20.09.74 NISHIHARA ENVIRONME D15 J04 =CA 1059-786
Measuring the density of a suspension esp sewage - 26771X/15
NISW 21.07.71 NISSHIN OIL MILLS KK D13 =J4 8019-745
Fibrous protein with improved colour, water retention and flavour - 62604B/34
*NISW 21.07.71 NISSHIN OIL MILLS KK D13 *J7 9021-429
Fibrous protein with improved colour, water retention and flavour - 62604B/34
NITL 22.12.77 NITTO ELECTRIC IND KK A97 C03 D22 =J5 4086-584
Antibacterial and antifungal materials - 49538B/27
*NIYU- 23.12.77 NIPPON YUSEN KK D15 E36 *J5 4086-443
Sulphate removal from diesel engine cooling water - 61998B/34
NOCE- 17.02.75 NORSK CEREALINSTITU D11 #CA 1059-823
Cooling of bakery products under vacuum - 53423W/32
NORM- 31.10.75 NORM AMC AG D16 =CS 7606-962
Refuse and sludge composting plant - 34698Y/20

OILD- 01.04.77 OIL-DRI CORP C03 D15 (D22) =US 4163-674
Gypsum granules for absorption on liquids - 63110Y/36
OLIN 02.05.74 OLIN CORP A60 C02 D22 E13 =J7 9021-344
Antimicrobial bis-(2-pyridyl-1-oxide)-disulphide - 47579W/28
OREA 24.12.70 L'OREAL SA D21 E19 =DS 2164-166
Aminated gamma dialdehydes - 43871T/27
OREA 12.08.74 L'OREAL SA A96 D21 E14 (E15) =DS 2535-777
Polyether cosmetic oil binders - 17246X/10
OREA 30.06.75 L'OREAL SA A96 D21 =FR 2408-387
Cosmetic compsn. based on aq. spherule dispersions - 37155B/20
OREA 16.07.76 L'OREAL SA A25 B04 D21 (A97 B07) =GB 1550-764
Polyether-poly:ol surfactants with sequenced structure - 06349A/04
OREA 17.09.76 L'OREAL SA D21 E14 =GB 1551-198
Substd. alkoxy para-phenylene di:amine - 15862A/09
OREA 02.02.78 L'OREAL SA A96 B04 D21 (D22) =NL 7900-822
Conserving aq. dispersions of liposome microcapsules - 58011B/32
ORGO- 23.05.74 ORGONICS INC A97 C04 D15 (A21 C03 D13) =CA 1059-781
Odourless fertilizer or animal feedstuff additive - 70797W/43
*ORIY 24.12.77 ORIENTAL YEAST KK D13 E19 *J5 4089-047
Additive for boiled rice - 62507B/34
*OUTO 14.02.78 OUTOKUMPU OY D15 J04 *DT 2903-078
Tubular cell for voltameter or polarograph - 61720B/34

*PALE/ 04.05.78 PALECEK K C03 D13 *CS 7802-861
Feedstuff for newly hatched chicks - B/34
PANL- 31.03.77 PANLABS INC B02 C02 D22 (D13) =FR 2408-608
De:thia-penicillin derivs. from new Streptomyces species - 72706A/41
*PATE- 13.07.77 PATERSON CANDY INT D15 *ZA 7803-833
Aerator - B/34
PECP- 04.03.77 PEC PROCESS ENG CO D15 =US 4163-720
Biological effluent treatment - 65642A/37
*PEND/ 11.08.78 PENDL J D13 *CS 7805-253
Salt melts for cheese prodn. - B/34
*PESE/ 20.01.78 PESEK M C03 D13 *CS 7800-399
Additive for green fodder - B/34
*PETL 19.02.71 PETROLITE CORP C01 D22 E11 H01 *US 4163-850
Full quat. nitrogen (iso)quinoline phosphonate cpds. - 63111B/34
*PETL 21.11.77 PETROLITE CORP B06 D21 E33 H07 (H06) *US 4163-728
Prepn. of magnesium-contg. dispersion from magnesium carboxylate - 63047B/34
PETR- 03.02.78 CF PETRIS EFTF I/S D13 =NL 7900-758
Chewing gum contg. sorbitol as sweetener - 58020B/32
PFIZ 17.10.73 PFIZER INC B02 C02 D22 E13 =CA 1059-992
6-Amino-2,2-dimethyl-3-(tetrazol-5-yl)-penam derivs. - 29076W/18
PFIZ 01.06.77 PFIZER INC B04 D16 =ZA 7803-025
Animal growth promoting polypeptide antibiotic 46192 - 40248A/22
PFIZ 15.11.77 PFIZER INC D16 H01 =FR 2408-653
Fermentative prodn. of pyruvate-free xanthan - 37168B/20
PFIZ 16.12.77 PFIZER INC B03 D13 E13 =J5 4088-261
Erythorbic and ascorbic acid 6-fatty acid mon:ester prepn - 45702B/25
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =NO 7900-006
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =SW 7900-027
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =SW 7900-028
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
*PHIL- 17.08.77 PHILADELPHIA GEAR C D15 J02 *US 4163-631
Surface aerator impeller for sewage streams - 63003B/34
*PINE- 04.03.77 PINE STATE CREAMERY D13 *US 4163-802
Soft frozen served yogurt food prod. - 63084B/34
PLAC 15.03.71 MAX PLANCK GES WISSENSCH D15 =DS 2112-401
Seawater purification - 62938T/40
POGC 06.07.77 DAVY POWERGAS LIMIT D15 E37 J01 M25 =ZA 7803-662
Recovering e.g. copper or cyanide from aq. soln. - 80227A/45
*POKK 31.10.77 POLA KASEI KOGYO KK D21 E17 (E15) *J5 4086-630
Compsn. similar to skin fats, for treating roughness, cracks etc. - 62102B/34
*POKK 21.12.77 POLA KASEI KOGYO KK D21 *J5 4086-633
Cosmetics contg. colour powder - 62103B/34
*POKK 22.12.77 POLA KASEI KOGYO KK A96 D21 *J5 4086-634
Cosmetics contg. colour powder - 62104B/34
*POLE- 09.02.78 OFF MECC FR POLETTO D18 F07 *GB 2014-078
Leather punching press with hydraulically operated punches - 61936B/34
*POMM/ 07.01.77 POMMERING K D16 *CS 7700-114
Proteins fractionation and purification - B/34
*PROC 21.03.74 PROCTER & GAMBLE CO A97 D25 *CA 1059-865
Detergent compsns. contg. specified ethoxylated prim. alcohol cpds. - 61556B/34
PROC 01.08.74 PROCTER & GAMBLE CO A97 D25 E19 =CA 1059-867
Ethoxylated zwitterionic cpd-contg detergent compsn - 03617X/02
PROC 16.09.74 PROCTER & GAMBLE CO D13 (D12) =CA 1059-817
Shaped textured protein food prod. - 03842Y/02
PROC 16.09.74 PROCTER & GAMBLE CO D13 (D12) =CA 1059-818
Shaped, (imitation) meat products - 24867X/14
PROC 27.09.74 PROCTER & GAMBLE CO A97 D23 E33 =CA 1059-868
Phosphate free granules contg submicron calcium carbonate - 29462X/16
PROC 13.11.74 PROCTER & GAMBLE CO A97 D25 =CA 1059-863
Detergent compsns esp. for textiles - 40407X/22
PROC 21.07.75 PROCTER & GAMBLE CO A97 D25 E19 F06 (A28) =GB 1551-142
Fabric softening microcapsules useful in washing machines - 09277Y/06
PROC 20.08.75 PROCTER & GAMBLE CO A97 D25 E19 (A25) =GB 1551-074
Dish washing liquid compsn. of high cleaning and foaming power - 12761Y/08
PROC 22.09.75 PROCTER & GAMBLE CO A97 D25 E19 (E33) =GB 1551-091
Liq. detergent compsn. contg. anionic surfactant - 21831Y/13
*PROC 17.08.77 PROCTER & GAMBLE CO B05 D21 *US 4163-800
Topical compsn. for treating skin lesions - 63082B/34
*PROC 08.02.78 PROCTER & GAMBLE CO D22 *EP ---3-625
Liq. cleaning compsn. with high storage stability - 61820B/34
*PROF- 10.11.77 PROFROID SA D14 *FR 2408-802
Crop dryer which uses warm air recycled via heat pump - 61910B/34
*PROT- 19.07.78 PROTEAN HDGS LTD D12 *ZA 7804-116
Collecting blood sample from animals - B/34

RALS 18.09.74 RALSTON PURINA CO C03 D13 =CA 1059-816
High moisture content meat/expanded protein petfood - 41028W/25
RALS 26.07.75 RALSTON PURINA CO D12 F01 =CA 1059-819
Prodn. of protein filaments from cooked meats - 88724X/47
RALS 26.07.75 RALSTON PURINA CO D12 F01 =CS 7604-155
Prodn. of protein filaments from cooked meats - 88724X/47
RALS 11.12.75 RALSTON PURINA CO D13 =GB 1550-878
Modified protein filaments prodn. for aq. slurry - 29049Y/16
RALS 09.11.77 RALSTON PURINA CO C03 D13 =FR 2408-308
Feed supplement for cattle contg. hydroxylated propane deriv. - 37449B/20
RALS 09.11.77 RALSTON PURINA CO C03 D13 =FR 2408-309
Liq. feed supplement for cattle contg. acid-treated fat - 37448B/20
RALS 09.11.77 RALSTON PURINA CO C03 D13 =FR 2408-310
Food supplement for cattle contg. a fatty acid deriv - 37450B/20
RALS 09.11.77 RALSTON PURINA CO C03 D13 =FR 2408-311
Acid-modified fat as feed supplement additive for cattle - 37447B/20
*RARE= 09.04.76 RARE METAL IND RES A88 D15 E11 J01 *SU -632-656
Removing tri:butyl phosphate and trilon B from waste water - 62800B/34
*RASC/ 24.05.78 RASCHIK P D12 G02 *CS 7803-364
Peelable collagen coatings and cellulose sheets - B/34
REFU- 24.12.75 REFUSE DERIVED FUEL D16 H09 L02 (D15) =GB 1551-019
Fuels made from organic solid wastes - 30996Y/18
REFU- 00.00.78 REFUSE DERIVED FUEL D16 H09 L02 (D15) =GB 1551-020
Fuels made from organic solid wastes - 30996Y/18
REIC- 14.11.77 REICHLING & COMP D15 =FR 2408-552
Portable drinking water preparation package - 39243B/21
RHON 04.08.77 RHONE-POULENC INDUSTRIES B02 C02 D13 =ZA 7804-390
Antibiotic 35665 RP useful as animal growth promoter - 09974B/06
RHON 07.10.77 RHONE-POULENC INDUSTRIES B03 C02 D16 =FR 2408-619
Antibiotic 37454 RP for control of coccidiosis - 30048B/16
RIES/ 09.12.77 RIESS G A96 D21 =BR 7808-042
Dental surgical implant for securing crowns, bridges etc. - 24021B/13
RIKE- 23.07.74 RIKEN SHOKUHIN KK D13 =J5 1012-958
Dried seaweed prodn. - 62600B/34
*RIKE- 23.07.74 RIKEN SHOKUHIN KK D13 *J7 9021-425
Dried seaweed prodn. - 62600B/34
ROHG 20.12.77 ROHM GMBH C03 D13 =BR 7808-335
Animal protein hydrolysates useful for animal feedstuffs - 53143B/29
ROQF 04.06.76 ROQUETTE FRERES SA A97 B04 D16 =US 4163-691
Insoluble particles with enzyme activity - 90415Y/51
*RYBA/ 06.02.78 RYBAKOV V A D23 E17 *DT 2805-025
Higher fatty acid prodn. from olefin - 61597B/34

*SAJV/ 14.08.78 SAJVERA J D13 *CS 7805-301
Solid, stabilised sweetening mixture - B/34
*SANO 08.02.78 SANDOZ-PATENT-GMBH A97 D15 F09 *DT 2805-265
Polyamido-amine flocculant prepn. - 61600B/34
*SANW- 20.12.77 SANWA YAKUHIN KK D13 *J5 4086-647
Decolourising soybeans - 62108B/34
*SANW- 26.12.77 SANWA SHOJI KK D13 *J5 4089-062
Paste food prepn. - 62511B/34
*SANY 20.12.77 SANKYO KK B05 D16 E17 *J5 4086-690
Pharmaceutically active 3-hydroxy-3-methyl glutaric acid prodn. - 62118B/34
*SANY 20.12.77 SANKYO KK B03 D16 *J5 4086-693
Antibacterial, anti:leukaemic Botryodiplodine prodn. - 62121B/34
SAOC 31.03.77 SANRAKU OCEAN B02 C02 D22 (D13) =FR 2408-608
De:thia-penicillin derivs. from new Streptomyces species - 72706A/41
SAOL 01.11.71 SANYO ELECTRIC KK D13 =J4 8049-947
Processing seaweed - 62599B/34
*SAOL 01.11.71 SANYO ELECTRIC KK D13 *J7 9021-424
Processing seaweed - 62599B/34
SCHD 25.01.78 SCHERING AG B01 D16 =EP ---3-519
17-Alpha-alkoxy:alkoxy-pregn-4-ene-3,20-di:one derivs. - 56511B/31
SCHD 25.01.78 SCHERING AG B01 D16 =GB 2014-150
17-Alpha-hydroxy-corticoid derivs. substd. by acetal or thio:acetal - 58435B/32
*SCHN/ 03.03.78 SCHNEIDERMAN D D12 *ZA 7801-244
Sliced biltong and container - B/34
SCMA 27.10.76 SCHMALBACH-LUBECA D14 =DS 2648-709
Cylindrical autoclave assembly - 33604A/19
*SCMZ 24.12.75 SCM CORP D13 *US 4163-805
Reconstituted semi-crisp food prod. contg. alginate - 63086B/34
SEIS 03.08.74 SEISAN KAIHATSU KAGAKU D21 E12 =J7 9021-417
Toilet prepns. for hair contg. phytic acid or zinc phytate - 25089X/14
*SERA= 03.02.76 SERA SULPHUR PROD D15 *SU -632-659
Water purification by electro-coagulation - 62803B/34
SHEW 14.06.71 SHERWIN-WILLIAMS CO D15 E13 M14 =DS 2229-012
Benzotriazole-methylbenzotriazole mixtures - 08353U/07
*SHIF 22.12.77 SHINMEIWA IND KK D15 *J5 4086-955
Biological polluted water treatment - 62140B/34
*SHIM- 19.12.77 SHIMADA-YA HONTEN K D11 *J5 4086-641
Noodles prodn. - 62106B/34
*SHMC 23.12.77 SHIMIZU CONSTRUCTION D15 *J5 4086-951
Removing oils and suspended solids from waste water - 62139B/34

SIMC 25.11.77 SIMON-ROSEDOWNS LIM D23 *ZA 7804-381
De-gumming tri:glyceride oils prior to physical refining - B/34

SLAG- 06.02.78 SLAGTERIERNES FORSK D13 =NL 7900-908
Decolourised blood human foodstuffs - 58024B/32

*SMEK/ 11.11.77 SMEKAL F B05 D16 E16 *CS 7707-397
L-Lysine prepn. by fermentation - B/34

*SMEK/ 16.11.77 SMEKAL F B05 D16 E16 *CS 7707-544
L-Lysine prepn. by fermentation - B/34

SNAM 20.12.73 SNAMPROGETTI SPA B02 D16 =IL --46-150
Enzymatic hydrolysis and enzymatic synthesis of cephalosphorins - 32470W/20

SNAM 21.02.75 SNAMPROGETTI SPA D13 E19 =IL --49-059
Phenolic cpds and oligosaccharides extn from plant protein - 68717X/37

SNAM 06.06.75 SNAMPROGETTI SPA A91 D15 F01 J01 (D16) =IL --49-671
Prepn. of fibres contg. occluded complex builders - 94693X/51

SNAM 23.12.76 SNAMPROGETTI SPA A32 B04 D16 F01 (A18 A28 A94) =DS 2757-787
Porous fibre prepn. from polymer soln. or melt - 45860A/26

SODA- 29.07.77 SODASTREAM LTD D15 =ZA 7804-295
Portable water carbonator for sparkling drinks - 84161A/47

SOLV 18.07.73 SOLVAY & CIE A14 D25 (A91) =J7 9020-995
Water-soluble poly(alpha-hydroxy-acrylate) salts - 07496W/05

*SORM/ 02.10.78 SORM M D23 E12 *CS 7806-350
Sodium salts of sulphonated mono-glycerides of fatty acids - B/34

SOUT- 21.12.77 SOUTHLAND CORP D13 E17 (D21 E12) =BR 7808-380
Easily dispersible powdered hydrated emulsifiers - 54385B/29

SPEC- 16.07.75 SPECIAL METALS CORP D21 M26 =CA 1059-795
Alloy powder mixt for dental amalgam prepn - 73794X/39

STAH 14.02.78 STANDARD OIL CO (OHIO) A13 B07 D21 G02 (A14 A82 A96 A97) #DT 2806-044
Crosslinked maleic anhydride-indene copolymer - 49747A/28

*STAH/ 04.01.78 STAHLSCHMIDT V D16 *BR 7800-044
Thermophilic, aerobic fermentation of organic residual materials - B/34

STAU 12.08.74 STAUFFER CHEMICAL CO D12 =CA 1059-822
Meat treatment to maintain colour, taste and fresh quality - 25832W/15

*STAV= 18.05.77 STAVROPOL POLY D15 *SU -632-655
Thermal softening appts. for water contg. calcium sulphate - 62799B/34

STEC- 22.12.77 STEC SOC TECH CHIM D15 J01 =BR 7808-347
Flocculation of liquids and solids before filtration - B/32

STEI 02.10.70 STEINECKER A MASCH GMBH D16 =DS 2048-602
Malting tank aerator - 24410T/16

STEI- 23.07.76 STEINECKER A MASCH D16 =US 4163-417
Rectangular vessel for boiling beer wort - 83032Y/47

STEM 24.07.75 STEINMULLER L & C GMBH D15 J01 =DS 2533-100
Continuous ion exchange treatment of liqs. - 88846X/48

STER 10.11.77 STERLING DRUG INC D15 =FR 2408-555
Treating waste water by biological oxidn. and carbon adsorption - 35262B/19

STER 23.12.77 STERLING DRUG INC D22 L02 =BR 7808-344
Beta whitlockite prepn. in solid or porous form - 47146B/26

*STOC- 10.07.68 FA STOCK H D22 *DS 1792-001
Sterilising autoclave with rotor in fixed chamber - 61558B/34

STRI 10.06.74 STANFORD UNIVERSITY B05 D13 E15 =SU -632-689
1,4-Cyclohexadiene-1-carboxaldehyde syn-oximes - 80121W/48

STUD 13.02.78 STUDIENGES KOHLE MBH D13 =DT 2905-078
Decaffeination of coffee - 50888B/28

SULZ 03.12.74 SULZER BROTHERS LTD D17 =CA 1059-733
Wood sugar prodn. - 46335X/25

SULZ 14.07.75 SULZER BROS LTD D15 =GB 1551-140
Biological microogranism activity control - 05982Y/04

SUMH 05.10.76 SUMITOMO JUKIKAI EN D15 =US 4163-715
Purification of waste water - 39600A/22

*SUMI/ 27.12.77 SUMI H B04 D16 *J5 4089-083
High stability, sol. urokinase compsn. - 62516B/34

*SUMM 24.12.77 SUMITOMO METAL MINI KK A91 D15 E36 M11 *J5 4088-655
Treating plating effluent contg. metal cyan cpds. - 62392B/34

SUMO 08.11.74 SUMITOMO CHEMICAL KK D15 H05 J01 =J5 1055-155
Treating oil contg. industrial wastes - 38489X/21

SUMO 08.11.74 SUMITOMO CHEMICAL KK D15 H05 J01 =J7 9021-197
Treating oil contg. industrial wastes - 38489X/21

SUMO 02.02.76 SUMITOMO CHEMICAL KK A88 D15 J01 (A26 D13) =US 4163-725
Semi-permeable polysulphone membranes for ultrafiltration - 56074Y/32

*SUZU/ 18.12.76 SUZUKI S D22 G03 *GB 1550-960
Ostomy bag deodorising seal - 61920B/34

*SVBA- 04.01.78 SVENSKA BAKUGNSFABR D11 *SW 7800-121
Electrically heated bread-baking oven - B/34

*SVET= 06.01.77 SVETLOGARSK PROTEIN D16 *SU -632-384
Turbo-ejector for aerated liquid - 62689B/34

*SWAL- 22.12.77 SWALLOW KAKEN KOGYO D21 E16 *J5 4086-635
Permanent wave compsn. - 62105B/34

SYND- 09.02.78 SYNDICAT NAT FAB SU D17 =DT 2904-781
Purificn. of sugar syrup by electrodialysis - 59810B/33

SYND- 09.02.78 SYND NAT FABR SUCRE D17 =GB 2014-188
Purificn. of sugar syrup by electrodialysis - 59810B/33

SYNO 26.07.74 SYNTHELABO B04 D16 =DS 2533-437
In-vitro culturing of plant cells - 11618X/07

SYNT 26.08.74 SYNTEX (USA) INC D13 =CS 7503-592
Dietetic foodstuff compsn. giving stable aq. emulsion - 81463W/50

*SYNT= 09.04.76 SYNTH RESINS RES INST A88 D15 E11 J01 *SU -632-656
Removing tri:butyl phosphate and trilon B from waste water - 62800B/34

TABA- 02.03.72 FAB TABAC REUNIES A97 D18 =DS 2307-884
Tobacco substitute - 54814U/38

TABA- 09.02.78 FAB TABAC REUNIES D18 (D16) =GB 2014-031
Tobacco treatment for selective nitrate and nitrite decomposition - 82495A/46

TAIS 10.02.78 TAISHO PHARMACEUT KK B04 D16 =DT 2903-710
Amylase inhibitors TAI-A and TAI-B - 59814B/33

TAIT 15.12.77 TAITO KK B07 D13 E24 F06 =J5 4086-668
Red pigment for textiles, foods and medicines - 54480B/29

*TAKA/ 27.12.77 TAKAGI M D12 E35 *J5 4089-060
Colour-stabilising treatment for eggs, meat and fish - 62509B/34

TAKE 08.10.73 TAKEDA CHEMICAL IND KK B02 D16 =J7 9021-437
Deacetoxycephalosporin C - 00937W/01

TAKE 08.09.76 TAKEDA CHEMICAL IND KK B02 C02 D22 =FR 2408-612
Cephalosporin antibiotics active against resistant strains - 00060A/01

*TAKE 23.12.77 TAKEDA CHEMICAL IND KK D13 E17 (E34) *J5 4089-063
Egg-based food, e.g. steamed egg custard, prodn. - 62512B/34

*TAKE/ 26.12.77 TAKEDA F D15 *J5 4088-654
Treatment of sludge contg. aluminium hydroxide(s) etc. - 62391B/34

*TAMC/ 18.04.78 TAMCHYNA J D13 *CS 7802-483
Prodn. of syrups for non-alcoholic drinks - B/34

*TANA/ 19.01.78 TANAKA A A96 D21 E17 G02 *EP ---3-638
Coating compsn. for marking occluding teeth contact points - 61825B/34

TEEP 09.11.78 TEE PAK INC A97 D12 E13 =US 4163-463
Sausage skin opt. reinforced by fibre - 54569X/29

*TETR 05.01.78 TETRA PAK INT AB D13 *SW 7800-137
Sterilisation of lactase enzyme - B/34

TEXC 20.12.74 TEXACO DEV CORP D15 E12 H01 =CA 1059-870
Preventing formation of carbonate or sulphate. scale in oil wells - 84783X/45

TEXT- 14.11.77 STATNI VU TEXTILNI A11 D22 (A96) =FR 2408-624
Oxidised cellulose prods. useful as haemostatic agents - 32684B/17

THOM/ 30.01.75 THOMPSON D T D11 =IL --48-871
Dough conveyor with twin pockets either side of belt - 46095X/25

TIPE- 29.11.77 TIPE REVENT AB D11 =GB 2014-029
Convection type baking oven - 42644B/23

*TOKE 22.12.77 TOKYO SHIBAURA ELEC LTD D15 E36 *J5 4086-494
Controlling the feed rate of ozone to a reactor - 62025B/34

*TOKU 19.12.77 TOKUYAMA SODA KK B04 D16 (B05) *J5 4086-691
Glutathione prodn. by cultivating e.g. Saccharomyces microorganisms - 62119B/34

*TOMO/ 26.12.77 TOMOYASHU H C03 D15 (D13) *J5 4088-872
Organic waste fermentation to give fertiliser or feed - 62434B/34

*TOPP 26.12.77 TOPPAN PRINTING KK A92 D13 *J5 4089-057
Preservation of scallion - 62508B/34

TOPP 26.12.77 TOPPAN PRINTING KK D13 =J5 4089-058
Preserving vegetables and fruit during storage - 40838B/22

*TORA 13.02.78 TORAY INDS INC A88 D15 J01 (A25) *DT 2904-979
Reverse osmosis membrane contg. tri:isocyanurate polymer - 61748B/34

*TOXN 20.12.77 TOYO BREWING KK D13 *J5 4086-669
Thermostable colourant for foods - 62117B/34

*TOXW 27.12.77 TOYO INK MFG KK B03 D13 E13 *J5 4089-066
Sweetener prodn. for use as cane sugar substitute - 62513B/34

*TOYM 09.11.77 TOYOBO KK B01 D16 *J5 4089-087
Prodn. of androstane cpd. used in hormone therapy - 62519B/34

*TOYM 16.11.77 TOYOBO KK A11 D15 F01 J01 (A88) *J5 4088-883
Hollow fibre semipermeable membrane mfr. - 62444B/34

*TOYM 25.11.77 TOYOBO KK D15 *J5 4088-650
Ammoniacal nitrogen removal from human and industrial waste - 62387B/34

*TOYM 30.11.77 TOYOBO KK A11 D15 F01 J01 (A88) *J5 4088-881
Mfg. cellulose tri:acetate hollow fibre ultrafiltration membrane - 62442B/34

*TOYM 07.12.77 TOYOBO KK D15 *J5 4088-651
Denitrification of waste water - 62388B/34

*TOYM 12.12.77 TOYOBO KK D15 *J5 4088-652
Organic waste liquor treatment - 62389B/34

*TOYM 12.12.77 TOYOBO KK B04 D16 J04 *J5 4089-683
Determination of amylase activity - 62548B/34

*TRIS/ 20.12.76 TRISHINA L P D18 E12 *SU -632-728
Hide processing before tanning - 62868B/34

TRYC 11.07.73 TROY CHEMICAL CORP C03 D22 G02 =IL --45-148
Iodo alkynyl urethanes useful as fungicides - 07439W/05

TSUB 02.03.74 KUMIAI CHEM IND KK D21 E13 =J7 9021-415
Toiletries contg. ascorbic acid (2)-sulphate - 73022Y/41

TSUB 06.02.78 KUMIAI CHEM IND KK D16 =GB 2014-154
Beta:galactosidase powder cultured from penicillium multicolour - 60177B/33

TSUB 06.02.78 KUMIAI CHEM IND KK D16 =NL 7900-762
Beta:galactosidase powder cultured from penicillium multicolour - 60177B/33

*TSUM 27.12.77 TSURUMI SODA KK D25 E19 *J5 4088-907
Lavatory cleaning compsn. - 62453B/34
*TSUM 27.12.77 TSURUMI SODA KK D22 E19 *J5 4088-908
Cleaning compsn. - 62454B/34

*UENS 27.12.77 UENO SEIYAKU OYO KE D12 E17 *J5 4089-061
Quality improving agent for minced fish meat - 62510B/34
UGIN 20.01.75 UGINE KUHLMANN D15 E14 =IL --48-679
Substd phenol-activated hydrazine compsn - 58172X/31
UGIN 08.07.77 PROD CHIM UGINE KUH D15 =ZA 7803-913
Denitrification of biological effluents - 08436B/05
UGIN 14.12.77 PROD CHIM UGIN KUHL A91 D15 E36 J01 =BR 7808-185
Iodine removal from gaseous mixts. or aq. solns. - 47541B/26
UKAT 25.06.74 UK ATOMIC ENERGY AUTH A96 B04 D16 =CA 1059-936
Insolubilisation of enzymes - 02026X/02
UNIC 19.01.76 UNION CARBIDE CORP A88 D15 J01 (A21) =IL --51-289
Porous support elements for reverse osmosis membranes - 50437Y/29
UNIC 28.06.77 UNION CARBIDE CORP A97 D12 =ZA 7803-674
Food casings providing brown smoke colour - 02455B/02
UNIC 30.06.77 UNION CARBIDE CORP D12 =ZA 7803-732
Stuffing horn assembly with flow control device - 02456B/02
UNIC 15.12.77 UNION CARBIDE CORP A97 D12 =BR 7808-193
Tubular cellulosic wrapping, esp. for sausages - 45696B/25
UNIC 07.02.78 UNI-CHARM CORP A96 D22 =GB 2014-046
Diaper or sanitary towel comprising absorbent plies - 60198B/33
UNIC- 07.02.78 UNI-CHARM CORP A96 D22 =NL 7900-962
Diaper or sanitary towel comprising absorbent plies - 60198B/33
UNIL 18.09.74 UNILEVER NV D13 =DS 2541-507
Fatty food for frying sauce prepn - 24440X/14
UNIL 10.03.75 UNILEVER LTD C03 D23 E17 (D13) =CA 1060-041
De-waxing triglyceride oils - 74334X/40
UNIL 10.03.75 UNILEVER NV C03 D23 E17 (D13) =CS 7601-570
De-waxing triglyceride oils - 74334X/40
UNIL 10.11.77 UNILEVER NV D23 (D13) =FR 2408-649
Margarine fat based on eighteen carbon fatty acids - 37159B/20
UNIL 10.11.77 UNILEVER NV A97 D25 =FR 2408-650
Alkaline particulate detergent compsns. for washing clothes etc. - 37143B/20
UNIL 14.11.77 UNILEVER NV A96 B04 C03 D13 =FR 2408-351
Immunisation of poultry to coccidiosis - 39366B/21
UNIL 18.11.77 UNILEVER NV D25 E19 (E37) =J5 4088-889
Aq. bleaching compsn., esp. hypochlorite, coloured by pigment - 38987B/21
UNIL 07.12.77 UNILEVER NV B06 D21 E34 (E33) =J5 4089-042
Anticaries tooth-paste contg. sodium mono:fluorophosphate - 44416B/24
UNIL 03.01.78 UNILEVER NV D13 =BR 7808-600
Smoke liquid concentrate for food flavouring - 50867B/28
UNIL 03.01.78 UNILEVER NV D13 =NO 7804-400
Smoke liquid concentrate for food flavouring - 50867B/28
UNIL 03.01.78 UNILEVER NV D13 =SW 7900-033
Smoke liquid concentrate for food flavouring - 50867B/28
UNIL 09.01.78 UNILEVER NV A97 D25 (A25) =DK 7900-047
Aq. liq. detergent compsn. free from active salt additives - 50886B/28
*UNIL 14.02.78 UNILEVER NV A97 D25 *DT 2904-945
Detergent and esp. dishwashing compsn. - 61747B/34
*UNIL 15.02.78 UNILEVER NV A96 D22 *DT 2806-401
Absorbent bandage with perforated facing sheet - 61693B/34
UNIL 12.02.79 UNILEVER LTD A97 D25 =GB 2014-181
Detergent and esp. dishwashing compsn. - 61747B/34
UNVO 24.09.75 UOP INC D16 E17 H04 J01 =IL --50-395
Normal-paraffins sepn. from mixts. contg. iso paraffins and aromatics - 23857Y/14
UPJO 17.11.75 UPJOHN CO B02 D16 =DS 2660-011
Substd. methylhexahydro-indanones preparation - 39248Y/22
*UPJO 09.11.77 UPJOHN CO B04 D16 (B01) *FR 2408-621
Mutant microorganisms for selectively degrading steroid(s) - 61895B/34
UPJO 13.03.78 UPJOHN CO B03 D22 E13 F09 =ZA 7804-492
Antibacterial deoxy-neamine derivs. and precursors - 22298B/12

VEVG- 06.02.78 VER VAN GEBRUIKERS D15 =NL 7801-345
Anaerobic treatment plant for effluent - 58028B/32
VEVG- 06.02.78 VER VAN GEBRUIKERS D15 =NL 7809-488
Anaerobic treatment plant for effluent - 58028B/32
VGIM- 05.01.71 PROBAT-W VON GIMBOR D14 =DT 2167-184
Granular material treatment plant - 47934T/30
VINE 24.08.77 VINELAND LABS LTD B04 C03 D16 =FR 2408-352
Fowl cholera vaccine against Pasteurella multocida - 18510B/10
*VOLS- 19.08.77 VOLSTATIC HDS LTD D14 *ZA 7803-575
Appts. for applying powder flavouring to solid foods - B/34
*VYSL/ 24.10.78 VYSLOUZIL J D16 *CS 7806-830
Whisky maturing barrels heat treatment - B/34
VYSO- 04.01.78 VYSOKA SKOLA CHEMI A97 D16 #DK 7800-026
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

WARN 18.02.75 WARNER-LAMBERT CO A96 B04 D22 =CA 1059-906
Soluble acid collagen bovine serum albumen prepn - 67219X/36
WARN 02.02.78 WARNER-LAMBERT CO A97 D13 =NL 7900-812
Sugarless centre-filled chewing gum - 45645B/24
*WASU 05.03.77 WATER SUPPLY HYDROGEOL D15 J01 *SU -632-379
Effluent cleaning filter prodn. - 62684B/34
WEAR- 06.02.78 WEAR-EVER ALUMIN IN D13 =NL 7900-820
Portable popcorn appliance - 60190B/33
WEIK/ 28.04.75 WEIKEL G M D21 M26 =CA 1059-794
Dental amalgam contg silver tin and copper - 37759X/20
WELA 09.12.77 WELLA AG A96 D21 (A11) =BR 7808-072
Aq. hair conditioner and shampoo compsns. - 45814B/25
*WELL 25.01.78 WELLCOME FOUNDATION LTD B04 C03 D16 *EP ---3-529
Lipid-free antigen prepn. from epimastigote Trypanosoma cruzi - 61796B/34
*WELW/ 20.05.77 WELWARD L D16 *CS 7703-327
Strain of Acremonium chrysogenum CM F-644 microorganism - B/34
WERN 23.12.77 WERNER & PFLEIDERER D11 =BR 7808-391
Multideck baking oven - 49266B/27
WERN 03.02.78 WERNER & PFLEIDERER D11 =NL 7812-470
Multideck baking oven - 60053B/33
*WHIT- 22.04.77 WHITE STEVENSON D12 *ZA 7802-283
Curing fish to simulate smoked fish - 63135B/34
*WHIT- 19.08.77 WHITE STEVENSON LIM D14 *ZA 7803-575
Appts. for applying powder flavouring to solid foods - B/34
*WIEL- 09.02.78 FA WIELAND T A96 D21 *DT 2805-433
Dental device for impressions or holding crowns during insertion - 61613B/34
*WINT 11.02.78 WINTERSMALL AG D16 E13 H01 *DT 2805-823
Oil extn. by flooding with water - 61639B/34
WOOD- 11.11.77 WOOD SLIMP GMBH C03 D22 E36 F09 =FR 2408-441
Wood protection against moisture-induced decay - 18077B/10

*YAMS 22.12.77 YAMASA SHOYU KK B04 D16 *J5 4086-696
Citocarasin-E prodn. by Aspergillus terreus culture - 62123B/34
*YAWA 23.12.77 NIPPON STEEL CORP D15 *J5 4087-682
Electrostatic dewatering of sludge - 62216B/34
*YOSH/ 23.12.77 YOSHIMOTO H D13 *J5 4086-652
Salted japanese apricot tablets prodn. - 62111B/34

ZAID 06.07.71 MICROBIOCHEM RES FO B04 D16 =J7 9021-435
Antibiotic, leucyl negamicine - 14079V/08

7549-F BCD
GB 1152-934 Q00
SU -352-441 U22
FR 1567-868 Q01
DL --68-740 Q01
DS 1617-548 B34

05456-R D
DT 1922-295 R04
FR 2007-277 R12
US 3632-475 T06
GB 1273-027 T18
CH -518-369 T20
CA -921-855 U11
DS 1922-295 A02
NL -160-615 B26
J7 9021-420 B34

88538-R BD
CA -856-215 R48
CH -498-627 S04
US 3772-446 U47
J7 9021-406 B34

06767-S DE
DT 1947-038 S04
GB 1248-833 S39
US 3720-584 U13
J7 3014-074 U18
DS 1947-038 B34

33864-S BCD
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US 3657-072 T19
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CA -976-100 W44
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38597-S D
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NL -160-229 B22
DS 1658-062 B34

24410-T D
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43871-T DE
BE -777-200 T27
DT 2164-166 T30
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US 3812-246 V22
GB 1361-819 V31
GB 1361-818 V31
CH -551-196 V36
US 3940-477 X10
CA -995-671 X37
US 4014-990 Y14
CA 1018-526 Y42
US 4118-423 A41
DS 2164-166 B34

47934-T D
NL 7200-019 T30
DT 2100-248 T32
DT 2167-184 B34+

50189-T DE
DT 2100-022 T32
DS 2100-022 B34

62938-T D
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US 3772-192 U47
DS 2112-401 B34

68205-T DE
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NL 7204-369 T43
BE -781-466 T47
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GB 1377-243 V50
OE 7402-612 W15
SU -437-270 W24
CA -969-556 W27
CH -566-952 W43
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US 4163-759 B34

08353-U DEM
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FR 2141-817 U14
US 3803-049 V16
US 3843-337 V44
GB 1398-988 W26
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CA -986-706 X17
CA 1012-855 Y28
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17591-U D
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J4 8043-708 U45
US 3867-301 W09+
GB 1399-927 W27+
J7 6021-006 X30
J5 2044-803 Y20
J7 8014-565 A24
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GB 1399-927 B34+

41939-U D
GB 1324-358 U30
GB 1324-358 B34

54814-U AD
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FR 2174-637 U51
J4 8098-099 V08
CA -975-235 W42
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64283-U ADG
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J7 9021-312 B34

69407-U D
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CA 1018-681 Y42
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03930-V DE
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J7 9021-423 B34

14079-V BD
J4 8018-488 V08
J7 9021-435 B34

42078-V D
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BE -807-770 V23+
NL 7315-130 V24+
FR 2207-982 V39+
J4 9082-712 V41+
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GB 1415-070 W48+
OE 7309-759 X03+
US 3936-386 X07
CH -581-695 X52+
CA 1004-947 Y08+
SU -632-306 B34

54108-V D
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74688-V D
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US 3922-198 W50
US 3922-200 W50
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CA 1024-462 A06
DS 2417-639 B34+

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79238-V BCD
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CH -581-591 X52
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00937-W BD
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SW 7407-827 W07+
DK 7403-216 W10+
FR 2241-616 W22+
J5 0018-692 W27
J5 0063-193 W35
J5 0100-291 W46
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CA 1016-091 Y36+
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J7 9021-437 B34

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SW 7703-863 Y37
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CA 1047-046 B06
IL --45-148 B34

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J7 9020-995 B34

08505-W BCDE
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HU T013-932 Y41
CH -592-653 Y48
SU -542-473 Y51
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SU -564-812 A22
SU -571-191 A28
CH -603-633 A37+
CH -603-632 A37+
IL --45-536 A47
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CS 7704-703 B34
CS 7704-704 B34

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CA 1059-822 B34

25868-W DG
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J5 0065-497 W31
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ZA 7405-926 W51
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CA 1059-705 B34

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NL 7314-589 X51
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OE 7508-843 Y44
DK 7702-690 Y46+
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SF 7403-125 W32
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ZA 7406-792 X26
PT --59-942 X27
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US 3980-177 X39+
CH -586-035 Y18
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HU T013-863 Y41
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CA 1059-857 B34

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32470-W BD
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DK 7406-603 W39
FR 2255-380 W41
DL -116-833 X10
ZA 7407-895 X13
GB 1480-850 Y30
CA 1018-091 Y41
HU T014-217 Y50
IL --46-150 B34

41028-W CD
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NL 7413-804 X14
DT 2449-605 X14
J5 1039-279 X20
FR 2265-083 X27
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OE 7410-057 Y01
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US 4011-346 Y11
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NL -159-266 B10
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CA 1059-816 B34

41730-W D
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J7 9021-416 B34

44701-W AD
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CA 1034-800 A31
CA 1059-803 B34

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BE -828-695 W47
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SW 7505-136 W52
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DK 7501-682 X08
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DS 2460-599 B34

53423-W D
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DK 7500-531 X44+
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53737-W ADF
US 3896-802 W32
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DK 7501-680 X05+
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CA 1059-853 B34

59050-W ABD
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CH -581-664 X52
SW 7506-433 Y04+
FR 2313-394 Y12+
GB 1469-358 Y14+
US 4017-364 Y16+
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60331-W D
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NL 7505-587 X49+
CA 1059-821 B34+

65812-W DF
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DS 2413-380 Y50
CA 1059-802 B34+

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CA 1059-050 B33+
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79114-W D
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NL 7505-376 W48
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GB 1462-736 Y04
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PT --67-930 B15+
ZA 7707-244 B34

33405-A AD
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33483-A D
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J5 3111-678 A45
ZA 7707-622 B34

33495-A AD
BE -862-715 A19
DK 7800-026 B34+

33604-A D
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DS 2648-709 B34

39600-A D
J5 3045-054 A22
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40248-A BD
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NL 7805-305 A51
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J5 4003-001 B07
SF 7801-570 B08
FR 2393-007 B10
ZA 7803-025 B34

40439-A D
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NL 7801-299 A34+
SW 7801-315 A37+
DK 7800-522 A38+
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BR 7800-593 A42+
SF 7800-339 A43+
FR 2379-484 A45+
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42224-A BD
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FR 2374-911 A39
GB 1551-178 B34

44129-A ADEM
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ZA 7801-847 B18
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NL 7803-311 B19
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BR 7806-956 B30
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45533-A D
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GB 1550-801 B34+

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NL 7714-212 A28
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DK 7705-756 A35
FR 2375-280 A39
ZA 7706-996 A42
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46178-A CD
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BE -862-037 A26+

NL 7714-146 A27+
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DK 7605-732 A34
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SF 7703-818 A38+
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DK 7705-419 B30
BR 7800-178 B34

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ZA 7707-436 B34

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NL 7713-846 A27+
SW 7713-687 A30+
DK 7705-567 A34+
FR 2374-412 A38+
GB 1542-750 B12+
DL -134-648 B21+
DT 2752-485 B23
DS 2752-485 B34

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US 4090-998 A28
OE 7801-095 B04+
ZA 7800-728 B09+
DT 2806-044 B34+

56685-A BCD
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J5 3130-695 A51
FR 2387-232 B03
ZA 7802-023 B34

56929-A BD
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DK 7804-892 B31
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65642-A D
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J5 3130-858 A51
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67037-A DE
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DK 7801-141 B32
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J5 4086-636 B34

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SW 7711-959 B25+
FR 2408-383 B34+

72263-A CDE
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ZA 7800-915 B14
PT --67-848 B14+
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FR 2408-608 B34+

76734-A BD
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SF 7800-947 A51+

FR 2385-734 B02+
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US 4163-780 B34+

80227-A DEJM
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GB 2000-754 B03+
DT 2829-163 B04+
SW 7807-501 B07
J5 4017-372 B11+
FR 2396-574 B15+
BR 7804-331 B21+
ZA 7803-662 B34

82495-A D
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FR 2389-342 B06+
BE -874-050 B24
GB 2014-031 B34

84161-A D
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DK 7803-351 B11+
NO 7802-591 B12+
SF 7802-353 B16+
BR 7804-898 B19+
PT --68-320 B20+
ZA 7804-295 B34

89704-A DF
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DS 2743-915 B06
NL 7807-950 B09
SW 7808-510 B12
DK 7803-537 B13
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FR 2399-808 B20
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NL 7805-744 B01+
J5 4002-398 B07
FR 2393-848 B11+
J5 4052-791 B23
J5 4089-089 B34

91807-A D
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DT 2740-550 B14
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02455-B AD
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NL 7806-898 B03
SW 7807-276 B06
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J5 4011-252 B10
SF 7802-023 B12
FR 2395-912 B14
BR 7804-068 B21
ZA 7803-674 B34

02456-B D
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US 4133-076 B04
BR 7804-125 B05
SW 7807-387 B06
DK 7802-962 B08
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SF 7802-061 B12
FR 2395-892 B14
ZA 7803-732 B34

02460-B D
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ZA 7803-769 B34

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ZA 7803-881 B34

05446-B AD
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DT 2829-954 B04
FR 2395-746 B14
ZA 7803-775 B34

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DT 2831-778 B05
NL 7806-728 B06
DK 7803-234 B10
J5 4023-190 B13
BR 7804-573 B16
FR 2399-434 B19
DS 2831-778 B34

08436-B D
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DK 7803-062 B09
BR 7804-409 B11
FR 2396-726 B15
ZA 7803-913 B34

09974-B BCD
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NL 7807-991 B08
DT 2834-343 B08
GB 2002-759 B09
DK 7803-451 B12
J5 4039-087 B18
FR 2399-247 B19
ZA 7804-390 B34

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J5 4020-102 B12
FR 2397-459 B16
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ZA 7804-029 B34

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J5 4024-804 B13
SF 7802-308 B16
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PT --68-343 B28
ZA 7804-190 B34

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BR 7804-607 B13
FR 2397-878 B17
ZA 7804-053 B34

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CS 7705-118 B34

14632-B BDJ
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SW 7808-620 B13
J5 4032-382 B16
BR 7805-219 B19
FR 2400-708 B21
ZA 7803-915 B34

18051-B DE
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NL 7810-652 B19
DK 7804-741 B24
NO 7803-594 B24
SW 7810-837 B25
PT --68-675 B28
BR 7807-011 B30
FR 2406-998 B31
J5 4086-631 B34

18077-B CDEF
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DT 2822-461 B21+
NL 7810-841 B22+
GB 2008-640 B23+

DK 7804-785 B26+
SW 7810-771 B27+
BR 7807-344 B32+
FR 2408-441 B34+

18510-B BCD
GB 2003-029 B10
NL 7808-717 B11
DT 2836-507 B11
FR 2408-352 B34

19773-B ADF
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20067-B ADF
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DT 2841-042 B34
GB 2014-207 B34

20108-B CD
DT 2736-864 B11
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FR 2400-329 B21
ZA 7803-948 B34

21906-B D
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DT 2848-692 B20
J5 4077-376 B31
BR 7807-377 B32
FR 2408-379 B34

22298-B BDEF
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NL 7809-034 B12+
BE -870-263 B13+
GB 2005-664 B17+
J5 4048-736 B21+
ZA 7804-492 B34

22393-B CDE
EP ---1-099 B12+
DT 2741-197 B14
DK 7804-017 B17+
BR 7805-934 B20+
SF 7802-768 B22+
DT 2806-216 B34

24007-B D
BE -872-161 B13
DT 2852-807 B25
NL 7811-974 B26
GB 2010-903 B27
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24008-B D
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NL 7811-973 B26
DT 2852-815 B30
GB 2012-402 B30
BR 7808-009 B34

24021-B AD
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DT 2754-917 B25
NL 7811-747 B26+
GB 2010-095 B26+
DK 7805-464 B30
SW 7811-588 B30
NO 7803-718 B31
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29650-B DE
US 4147-720 B15
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PT --68-952 B32
DK 7805-405 B33
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29788-B D
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DT 2900-930 B30+
NL 7900-224 B31+
GB 2014-124 B34+

30034-B D
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GB 2005-123 B16
J5 4089-067 B34

30048-B BCD
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GB 2006-198 B18
J5 4059-396 B25
FR 2408-619 B34

31587-B DEF
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NL 7810-512 B19
GB 2007-734 B21+
DK 7804-680 B24
NO 7803-506 B24
SW 7810-909 B25
FR 2406-690 B30
SF 7803-185 B30
J5 4088-398 B34

31887-B D
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NL 7810-415 B18+
GB 2006-013 B18+
SW 7711-659 B25
SW 7711-660 B25
FR 2405-715 B29+
SF 7803-129 B30+
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31979-B DF
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DK 7804-371 B22
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SF 7802-976 B25
J5 4089-079 B34

32684-B AD
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CS 7506-704 A10
FR 2408-624 B34+

35262-B D
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DT 2848-710 B21
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J5 4075-859 B30
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36993-B DE
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FR 2408-357 B34

37143-B AD
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GB 2007-704 B21+
NL 7811-137 B22
NO 7803-768 B26
SW 7811-594 B27
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FR 2408-650 B34

37155-B AD
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NL 7811-298 B22
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FR 2408-387 B34+

37159-B D
BE -871-930 B20
DT 2848-718 B21
GB 2007-702 B21+
FR 2408-649 B34

37162-B AD
BE -871-939 B20
DT 2848-582 B21
NL 7712-503 B22
NL 7811-102 B22+
GB 2008-921 B24
FR 2408-607 B34

37168-B DH
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NL 7811-234 B22
GB 2008-600 B23
DK 7803-891 B26
BR 7807-431 B32
FR 2408-653 B34

37447-B CD
DT 2848-152 B20+
FR 2408-311 B34+

37448-B [illegible]
DT 2848-182 B20+
FR 2408-309 B34+

37449-B CD
DT 2848-183 B20
FR 2408-308 B34

37450-B CD
DT 2848-184 B20
FR 2408-310 B34

37610-B D
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NL 7811-091 B21
SW 7811-315 B27
J5 4086-695 B34

38987-B DE
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DT 2849-225 B22+
NL 7811-311 B23+
DK 7805-132 B27+
SW 7811-896 B29+
BR 7807-568 B32+
J5 4088-889 B34+

39026-B D
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GB 2014-149 B34+

39221-B D
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39243-B D
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FR 2408-552 B34

39366-B ABCD
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FR 2408-618 B34

40639-B D
BE -872-336 B22
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SW 7813-453 B34

40645-B D
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GB 2014-081 B34

40838-B D
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GB 2007-965 B22+
SW 7810-073 B28+
J5 4073-150 B29
J5 4089-058 B34

42347-B D
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GB 2009-582 B25
DK 7805-559 B30
NO 7803-954 B31
SW 7812-728 B31
J5 4089-064 B34

42430-B CD
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GB 2013-560 B33
NL 7900-765 B34

42644-B D
DT 2847-963 B23
SW 7713-504 B29
GB 2014-029 B34

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J5 4086-611 B34+

44059-B D
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DT 2904-570 B34

44099-B D
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44172-B BCD
DT 2753-513 B24
DK 7805-462 B29
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44320-B BCDE
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NL 7811-694 B25
GB 2010-263 B26
J5 4089-068 B34

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GB 2008-947 B24+
NL 7811-876 B25+
DK 7805-490 B30+
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SW 7812-512 B30+
J5 4086-610 B34+

44337-B BCDE
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J5 4088-291 B34

44361-B DE
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J5 4086-500 B34

44416-B BDE
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J5 4089-042 B34

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NL 7811-919 B29
GB 2013-176 B32
DK 7805-288 B33
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SW 7900-024 B34

45696-B AD
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DT 2853-674 B26
GB 2010-124 B26
SW 7812-852 B31
BR 7808-193 B34

45702-B BDE
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DT 2854-353 B26
J5 4088-261 B34

45814-B AD
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EP ---2-506 B26
BR 7808-072 B34

47067-B DE
US 4157-351 B25
DT 2900-395 B32+
NL 7900-328 B33+
GB 2014-030 B34+

47146-B DL
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GB 2010-792 B27
NL 7812-305 B28
DT 2855-368 B28
DK 7805-721 B32
SW 7813-143 B32
PT --68-927 B32
NO 7804-110 B33
BR 7808-344 B34

47149-B D
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DT 2854-720 B27
GB 2010-680 B27
NL 7812-297 B28
DK 7805-729 B32
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SW 7714-598 B32
PT --68-925 B32
BR 7808-366 B34

47150-B CD
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DT 2839-677 B27+
NL 7812-319 B28+
DK 7804-022 B32+
NO 7804-291 B32+
SW 7809-483 B32+
PT --68-940 B32+
BR 7808-461 B34+

47159-B CDGH
BE -872-920 B26
GB 2010-835 B27+
NL 7812-483 B28
SW 7813-183 B32
DT 2855-695 B33
BR 7808-412 B34+

47160-B D
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GB 2010-682 B27
BR 7808-292 B34

47163-B DE
BE -872-943 B26
GB 2010-678 B27
NL 7811-788 B28
DT 2757-559 B28
J5 4089-043 B34
BR 7808-390 B34

47198-B D
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DT 2855-704 B33
NL 7900-913 B34

47356-B DEF
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DK 7805-474 B31
BR 7808-290 B34

47376-B D
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ZA 7707-323 B34+

47377-B D
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ZA 7707-324 B34+

47409-B D
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BR 7808-149 B34

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J5 4089-030 B34
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47439-B DJ
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GB 2010-117 B26
NL 7812-233 B27
US 4163-717 B34

47481-B DE
EP ---2-510 B26+
BR 7808-067 B34+

47541-B ADEJ
EP ---2-636 B26
DK 7805-587 B31
BR 7808-185 B34

48334-B D
NL 7713-637 B26
EP ---2-551 B26
DK 7805-299 B30
BR 7808-074 B34

48335-B D
NL 7713-638 B26
EP ---2-552 B26
DK 7805-300 B30
BR 7808-073 B34

48336-B D
NL 7713-639 B26
EP ---2-553 B26
DK 7805-301 B30
BR 7808-091 B34

48337-B D
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EP ---2-554 B26
DK 7805-302 B30
BR 7808-070 B34

49015-B BCDE
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NL 7900-006 B29+
GB 2013-181 B32+
DK 7805-077 B33
NO 7900-006 B34+
SW 7900-028 B34+

49016-B BCDE
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DT 2900-120 B28+
NL 7900-007 B29+
GB 2013-179 B32+
DK 7805-074 B33+
SW 7900-027 B34+

49266-B D
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PT --68-797 B31
BR 7808-391 B34

49363-B DE
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J5 4087-707 B34

49389-B ACDF
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J5 4089-031 B34
US 4163-798 B34

49395-B ABDJ
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CS 7708-437 B34

49416-B BCDE
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J5 4088-270 B34

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J5 4088-244 B34

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SW 7812-828 B32
J5 4088-245 B34

49528-B BDE
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J5 4088-240 B34

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J5 4086-584 B34

50867-B D
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GB 2011-241 B28+
NL 7900-020 B29
DT 2900-072 B29
DK 7900-013 B33
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SW 7900-033 B34
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50886-B AD
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NL 7900-077 B30
DK 7900-047 B34

50888-B D
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DT 2905-078 B34+

51124-B BCDE
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GB 2012-751 B31
SW 7812-832 B32
J5 4088-271 B34

51129-B BCDE
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GB 2011-893 B29
J5 4088-241 B34

51130-B BCDE
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GB 2011-894 B29
BE -873-630 B30
J5 4088-242 B34

52805-B CD
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PT --68-651 B28
NL 7805-306 B30
GB 2012-157 B30
DK 7802-523 B34

53048-B D
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DT 2800-278 B29
DK 7805-364 B34

53123-B DF
GB 2011-791 B29
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53126-B DFJ
GB 2011-796 B29+
NL 7900-064 B30+
SW 7812-682 B34+
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53143-B CD
GB 2011-910 B29+
SW 7813-079 B32+
BR 7808-335 B34+

54379-B AD
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DT 2905-467 B34
GB 2014-125 B34

54385-B DE
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EP ---2-882 B29
PT --68-770 B31
DK 7805-670 B32
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BR 7808-380 B34

54480-B BDEF
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J5 4086-668 B34

54767-B ADEF
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BE -873-529 B30
GB 2014-157 B34

56511-B BD
DT 2803-660 B31
GB 2013-685 B33
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58011-B ABD
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GB 2013-609 B33
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61556-B AD
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61558-B D
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61649-B D
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61816-B D
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61825-B ADEG
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61831-B BCD
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61853-B BCD
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61866-B CD
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61869-B D
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FR 2408-438 B34

61889-B D
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61898-B AD
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62671-B AD
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62675-B DJ
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62684-B DJ
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SU -632-659 B34

62843-B BCD
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62846-B ADJM
SU -632-706 B34

62868-B DE
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62954-B D
SU -632-953 B34

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US RE30-066 B34+

62980-B DJ
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62983-B DE
US 4163-453 B34

62985-B D
US 4163-472 B34

63003-B DJ
US 4163-631 B34

63023-B DE
US 4163-676 B34

63032-B D
US 4163-692 B34

63040-B ADE
US 4163-718 B34+

63047-B BDEH
US 4163-728 B34

63050-B DE
US 4163-737 B34+

63080-B ACDE
US 4163-795 B34

63081-B ACDE
US 4163-797 B34

63082-B BD
US 4163-800 B34

63084-B D
US 4163-802 B34

63085-B D
US 4163-803 B34

63086-B D
US 4163-805 B34+

63087-B D
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63088-B AD
US 4163-807 B34

63089-B D
US 4163-808 B34

63111-B CDEH
US 4163-850 B34+

63133-B D
ZA 7801-723 B34
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63135-B D
ZA 7802-283 B34
ZA 7802-283 B25

63140-B D
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ZA 7802-788 B25

63141-B BCD
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ZA 7802-875 B25

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= 193 45696B A97D12 + P1P7Q3
= 290 47356B D25E19F06
= 292 47160B D22P2
= 293 53123B D22F07P2
= 335 53143B C03D13 + P3
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= 347 B D15J01
= 366 47149B D22P3
= 380 54385B D13E17
= 390 47163B D23E17
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= 818 24867X D13
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= 822 25832W D12
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= 826 17969Y D12
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= 828 59681X D12P2
= 829 59682X D12
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= 854 57543X D22P2
= 857 30904W A96D22P3 + Q3
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= 906 67219X A96B04D22R1 + P3
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• 910 B D15

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• 544 B B05D16E16

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CS 7803
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• 364 B D12G02

CS 7804
• 458 B D13
• 459 B D13
• 847 B D13

CS 7805
• 102 B D18
• 253 B D13
• 301 B D13

CS 7806
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• 464 B D13
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DS 2100
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DS 2112
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DS 2164
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DS 2229
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DS 2263
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DS 2307
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DS 2417
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DS 2418
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DS 2427
= 608 89517V D25E17 + P1

DS 2450
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DS 2460
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DS 2621
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=395 23857Y D16E17H04J01
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=948 62598B D13E16

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=660 62601B D13

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=947 62599B D13
=948 62602B D13

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=853 62560B D15E16M12

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=665 62603B D13

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=658 62570B D15J01

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=155 38489X D15H05J01Q7

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•443 61998B D15E36Q5
•478 62015B D15
•494 62025B D15E36
•499 62028B D21E33L02
=500 44361B D25E34
=584 49538B A97C03D22
=603 44172B B02C02D13
=610 44325B A96B07D21
=611 42821B A96B04D16J04R1
•625 62098B D22E36P3
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•691 62119B B04D16
•692 62120B B05D16E16
•693 62121B B03D16
•694 62122B B02D16
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•877 62135B A88D15J01
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•955 62140B D15
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•962 62142B D15
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•682 62216B D15
•694 62223B A81D22E36J01
=707 49363B D24E12P2
•708 62231B A97D25
•709 62232B A97D25
•710 62233B D25
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•787 62278B A11D13
•976 62301B A88D15J01

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•208 62320B D23E16
•215 62324B D21E17
=240 49528B B03D22E13
=241 51129B B03C02D22E13
=242 51130B B03C02D22E13
=244 49417B B03C02D22E13
=245 49527B B03C02D22E13
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•651 62388B D15
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•654 62391B D15
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=686 31887B D22P3
=687 31887B D22P3
•872 62434B C03D15
•879 62440B D21H08
•881 62442B A11D15F01J01
•883 62444B A11D15F01J01
=889 38987B D25E19
•906 62452B A97D25E12
•907 62453B D25E19
•908 62454B D22E19

J5 4089
=015 56929A B04D16
=030 47414B A97C03D22E19P3
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•047 62507B D13E19
•057 62508B A92D13

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=058 40838B D13
•060 62509B D12E35
•061 62510B D12E17
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=064 42347B D13
•066 62513B B03D13E13
=067 30034B D13
=068 44320B B07C03D13E13P1
=079 31979B D16F09P6
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•082 62515B B04C03D16
•083 62516B B04D16
•084 B A96B04D16
•085 62517B B05D16E16
•086 62518B B05D16
•087 62519B B01D16
•088 62520B B05D16
=089 91750A B05D16E19
•683 62548B B04D16J04R1

J7 9020
•957 62560B D15E16M12
=995 07496W A14D25

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•012 62570B D15J01
=197 38489X D15H05J01Q7
=199 82082X A91D15J01M25
=207 25706A B07D23
=312 64283U A21D15G04
=344 47579W A60C02D22E13
=406 88538R B05D22
=415 73022Y D21E13
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•425 62600B D13
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•428 62603B D13
•429 62604B D13
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=438 79238V B04C03D16

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=291 36304X D13
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•379 62684B D15J01
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SU -632
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•953 62954B D17R1

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#041 27209A D13
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•137 B D13

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=024 45685B B05D23E17
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=028 49015B B03C02D22E13
=033 50867B D13

US RE30
•066 62968B A91D15E31

US 4163
•392 62980B D15J04R1
=417 83032Y D16+Q3
#452 28848A A88D18E13P1
•453 62983B D18E13P1
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=715 39600A D15
=716 24133W D15F06
=717 47439B D15J01
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=720 65642A D15
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=780 76734A B04D16
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•805 63086B D13
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#324 47377B D15
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•723 63133B D15
=723 63133B D15

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=023 56685A B04C03D16
•283 63135B D12
=283 63135B D12
•788 63140B D13
=788 63140B D13
•875 63141B B04C03D16
=875 63141B B04C03D16

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948	20108B	C03D13

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446	89704A	D18F09P1
492	22298B	B03D22E13F09

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ABSTRACTS

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Section D:

FOOD
DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	14 AUG - 15 AUG 79	874,142 - 874,170
	17 AUG - 28 AUG 79	874,261 - 874,532
BRAZIL	14 AUG 79	7,706,446 - 7,900,381
CANADA	14 AUG 79	1,060,151 - 1,060,600
SWITZERLAND	13 JUL 79 + 31 JUL 79	608,315 - 608,933
		612,055 - 612,554
DENMARK	6 AUG 79	7,704,433 - 7,900,191
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-DAS	23 AUG 79	1,506,632 - 2,850,736
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FRANCE*	15 JUN 79 (BOPI 20 JUL 79)	2,408,984 - 2,409,674
UNITED KINGDOM	30 AUG 79	1,551,221 - 1,551,810
		2,014,421 - 2,014,830
JAPAN		
-Unexamined	—	47,024,405 - 53,068,673
	17 JUL - 23 JUL 79	54,089,701 - 54,092,967
-Examined	2 AUG - 8 AUG 79	79,021,761 - 79,022,760
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SWEDEN	13 AUG 79	7,800,164 - 7,905,504
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-Reissues	14 AUG 79	Re30,070 - Re30,074
-Patents	14 AUG 79	4,164,042 - 4,164,791
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*Printed patents actually published early - mid August, 1979

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

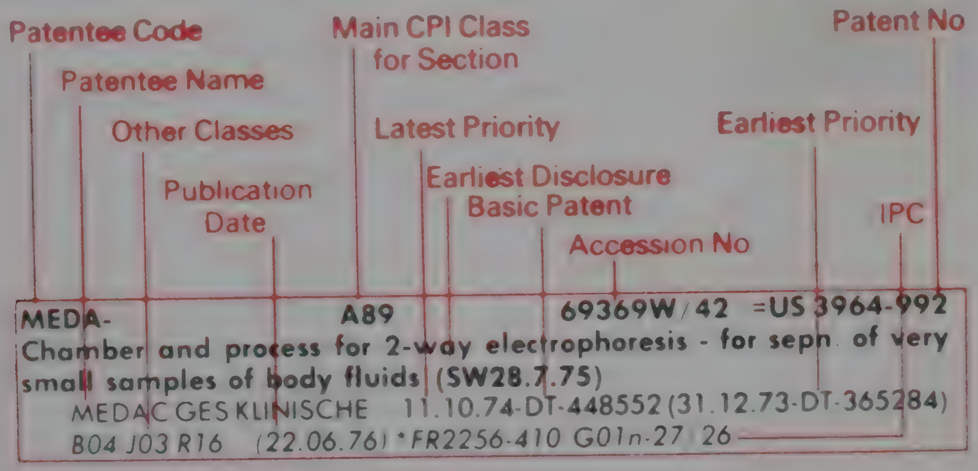
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
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Earliest Disclosure
Basic Patent
Accession No
Earliest Priority
IPC
Patent No

MEDA- **A89** **69369W/42 =US 3964-992**
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

OCH/ ★ D11 63210B/35 ★CH -612-073
reparing dough for making bread rolls - esp. croissants, using arger portions of dough and fewer turning stages after fat ncorporation
HOCHSTRASSER J C 16.06.76-CH-007660
(13.07.79) A21d-08/02

rodn. of dough for making bread rolls comprises first nixing flour, salt, water and other ingredients, then neading and adding yeast. The dough is then divided up nto portions each corresp. to $\geqslant$5 (pref. 10-15) kg of lour.

A mixt. of fatty material is then spread over each por-ion, then the four sides folded in towards the centre. Each portion is then subjected to 2 successive turning operations then the dough left to ferment, esp. for about 12 hr. Pref. the fatty material is about Y$_3$rd butter and about 300g is applied per kg. flour.

Used esp. for making croissants. The method saves time since larger portions of dought can be used; requires fewer turning stages (and no rolling between each turning). and the dough is easier to process (e.g. it can be cut up into isoceles triangles). The finished rolls have excellent quality and are buttered on the surface. 16.6.76 as 007660 (2pp1251)

TOPF/ D11 07887Y/05 =DS 2532-652
Dumpling dough prepn. from partly cooked potatoes - mixed with starch and salt and packed in plastic foil
TOPFER H J 22.07.75-DT-532652
*Q34 (23.08.79) *DT2532-652 A23l-01/21*

Dough for dumplings is made by heating peeled, raw potato at 80-95°C until the desired percentage of uncooked potato is obtd. The mixt. of cooked and uncooked potato can then be comminuted, mixed with starch, salt and opt. water and made into dough. 22. 7. 75 as 532652 (2pp068)

FRRR D11 24151B/13 =DS 2800-310
Bakery products for use with e.g. milk instead of known cereals - prepd. by baking in hot air spherical bodies made from pref. yeast-free dough contg. proteins
FERRERO P & CIA SPA 21.09.77-IT-069082
*(23.08.79) *DT2800-310 A21d-13/08*

Seamless pastry spherules, (about 10-20 mm dia), are prepd. with an inner cell structure, coated with egg white to exclude air, and have a moisture content $<1\%$; they are treated with milk or fruit juice, cooked (but not in fats), and used as crispy pastry fillings. 4. 1. 78 as 800310(3pp 047)

KLEI/ ★ D11 63239B/35 ★DS 2832-782
Prepn. of bread or confectionery contg. medicaments - by incorporating herbal powders or extracts into dough prior to leavening and baking
KLEINERT G 26.07.78-DT-832782
B07 (23.08.79) A21d-13 A23l-01/30 A61k-09 A61k-35/78

Bread and confectionery is made with the addition of medicaments. The baking process does not adversely affect the active components of herbal preparations. Herbal medicines are incorporated into the dough in the form of fine powders, juices, distillates or extracts and uniformly mixed in. The bread is leavened and baked in the usual manner.

The herbs impart an agreeable taste to the bread. The herbal medicines may even become more active in bread due to biological or chemical effects of leavening. 26. 7. 78 as 832782 (2pp244)

BOSE- ★ D11 63359B/35 ★DT 2807-532
Loaf from different kinds of dough - has bottom layer of specifically heavier whole meal than upper mixed layer
STADTBACKEREI BOSE 22.02.78-DT-807532
(23.08.79) A21d-13/02

Bread formed from different kinds of dough has $\geqslant$2 layers, one upon the other, and is baked in a tin; the underlayer being from a dough which is specifically heavier than the dough of the upper layer or layers.

The expensive practice of cutting and packing slices of wholemeal bread with slices of bright mixed bread, so that there is an interchange of aroma and taste is superceded. Instead the interchange takes place during baking. The method prevents the excessive prodn. of gas which otherwise separates the layers, and the various layers are attached securely together. 22.2.78 as 807532 (7pp1045).

BOUT- ★ D11 63446B/35 ★FR 2409-006
Bakery proving chamber with cool air to delay fermentation - rapidly exhausts cold air on changeover to warm fermenting
BOUTON & BRIQUET 22.11.77-FR-035014
(20.07.79) A21d-04

When changing over from a cooled, delay period to a warm acceleration period, the chamber is equipped to exhaust rapidly to atmos. The mass of cold air occupying the chamber space around the prod., An inlet is provided to allow air at ambient temp. to be drawn into the chamber pref. via an air heater.

Exhaust of chamber air, e.g. by switch inc on a turbine blower, is pref. startes automatically when changing from the delay period, e.g. by means of a timer. The exhaust blower is pref. switched off automatically when the temp. of exhausted air is detected as rising to a set point.

Used as an industrial bakery proving chamber in which dough pieces can be held in storage with fermentation temporarily delayed, e.g. overnight. Rapid warm up from e.g. 0°C to 25°C, produces better quality bread than previous, slower warmup. Overall processing time is reduced. 22.11.77 as 035014 (12pp448)

JACQ- ★ D11 63447B/35 ★FR 2409-007
Bakery prod. pressure baked in extrusion cooker - using as main ingredient conventional bread which is dried and crushed
JACQUET BISCOTTE 16.11.77-FR-034414
(20.07.79) A21d-08 A21d-13

Bakery prod. is prepd in a process of the type in which ingredients, e.g. flour, salt, water, are passed through an extrusion cooker in which they are subjected to high temp. and high pressure. A bread prod. which has been conventionally kneaded, fermented and baked is used as the main ingredient. This is first dried and/or toasted pref. to a moisture content below wt. 10%. The ingredient is then crushed ready for extrusion cooking.

The bread prod. used as main ingredient can be freshly made, just before the drying stage, or it can comprise stale bread and mfg. waste for reworking. Other raw materials such as flour, salt, sugar and starch, can be mixed with the main ingredient just before cooking extrusion.

Since the main ingredient has passed through a fermentation process, the final prod. has an acid pH similar to normal bread. The final prod. is an appetising, low calorie food with a distinct bread flavour and attractive, toasted appearance. 16.11.77 as 034414 (6pp448)

CAUS/ ★ D11 63455B/35 ★FR 2409-096

Machine to brush and spool cloth for bakery proving process - is fitted with mechanism to start cloth winding on spool

CAUSSE R 21.11.77-FR-035138 (22.04.77-FR-012488)

P43 (20.07.79) A21c-11 B08b-01/02

Machine is described in the parent patent for brushing the surface of a cloth and winding the brushed cloth on to a spool to form a removable coil of cloth. In partic. the cloth is one used in an industrial bakery to support and separate bread dough lumps during the proving stage. The machine has a motor-driven spooling cylinder which draws the cloth over the surface of a bristled mat. The brushing surface of the mat is pref. in a plane tangential to the cylinder.

Improvement is that the machine is fitted with a mechanical attachment to hold the leading edge of the cloth against the circumference of the cylinder when starting to wind the cloth on to the cylinder. The attachment pref. comprises a pressure roller freely rotatable on an axis, parallel to that of the cylinder.

Arrangement eliminates the need for special dexterity previously required to start cloth winding on to spool cylinder. Machine output is increased by improved speed of starting spooling. 21.11.77 as 035138 Add to 22.4.77 - 012488 (12pp448)

KONI/ ★ D11 B/35 ★OE 7601-028

Dough pieces portioning, cutting and laying down device

KONIG H 00.00.76-OE-001028

(15.08.79) A21c-05/04 A21c-07/04

PAUL/ D11 74431Y/42 =US 4164-591

Heating prepd. foods esp. pizzas - by grilling, baking and finally passing through convective roasting zone

PAULUCCI J F 02.04.76-US-673114

*Q74 +P28 (14.08.79) *DT2714-762 A21d-08/06*

A food article having a topping of higher specific heat than the crust is cooked by placing the refrigerated article in a heated oven topping up, broiling the topping by passing the article underneath a radiant heater, baking the article in a zone of the oven where convective heated air circulates, toasting the bottom of the crust by applying both convective air and radiant heat, and discharging the article in a ready to eat state. All three stages are carried out in three zones of the same oven.

Pref. the food is rotated through its own axis while being cooked. Pizzas can be cooked using this process. 2.4.76 as 673114 (10pp1376)

PACJ D11 75602A/42 =US 4164-593

Non-caking powdered dough conditioning agent - comprising a mixt. of sodium and calcium salts of a reaction prod. of stearic acid and lactic acid

PATTERSON C J CO 01.04.77-US-783658

*E12 (14.08.79) *NL7803-505 A21d-02/16*

An anti-caking dough conditioning agent is prepd. which consists of 15-90 wt.% of a sodium salt of the reaction prod. of stearic and lactic acids, and 10-85 wt.% of a calcium salt of the same reaction prod. The sodium and calcium salts are commingled in a molten condition and cooled to a solid state.

Pref. the sodium salt comprises sodium stearoyl 2-lactylate, and the calcium salt, calcium stearoyl 2-lactylate. The sodium and calcium salts are initially admixed as respective solids and then coheated for melting the salts, thus commingling in a molten condition.

The compsn. resists caking or agglomeration even when stored under adverse ambient conditions for long periods, enabling the agent to the usable as a free-flowing powder for commercial baking purposes. 1.4.77 as 783658 (6pp931)

D12 : MEAT ; FISH PROCESSING

KOTT/ D12 90734X/49 =DS 2515-067

Skinless smoked sausage - with natural skin produced by hot air blast after smoking of extruded strands

KOTT R 07.04.75-DT-515067

*(23.08.79) *DT2515-067 A22c-11 A23b-04/04*

Prodn. of smoked sausages comprises extrusion of raw sausage meat with thin soluble skins. The sausages are fed to a hot smoking chamber, then dried with warm air at 20-25°C for 36-48 hr. and cut into convenient lengths. 7.4.75 as 515067 (5pp047)

MOHL/ ★ D12 63316B/35 ★DT 2807-059

Kneading machine for pickled or injected meat pieces - has loading chest with containers fitting rotating drum

MOHLMANN G 18.02.78-DT-807059

(23.08.79) A22c-07

Enclosed drum which is free to rotate and can be driven, forms part of a plant for kneading pieces of meat which have been pickled or injected. The drum accommodates a loading chest which is permeable by fluids and is divided into a large number of compartments. The drum is a rectangular container, and a vertical section through its axis of rotation shows it to be square. The loading chest is also rectangular.

Used for kneading or beating the surface of meat pieces after they have been injected with a pickling soln., so that a coating of albumen seals the surface of the meat and prevents the escape of juices. Meat with or without bone can be processed in a gentle and effective manner. 18.2.78 as 807059 (14pp1045).

NUTR- ★ D12 63360B/35 ★DT 2807-554

Removing blood colour by sudden pressure drop - in fatty medium as preparation for use in foodstuffs

NUTRIDAN ENG A/S 22.02.78-DT-807554

(23.08.79) A23j-01/06

Removing the colour from blood and/or centrifuged blood corpuscles in a fat medium, opt. with addn. of proteins, consists of using a substantial pressure gradient, esp. of 200-300 bar, to trigger a reaction which causes the corpuscles to become coated in a protein-fat film, thus losing their colour. The pressure gradient is pref. produced in a homogeniser, esp. operating at 250 bar. The mixt. (blood, fat, protein, water) is pref. heated to 30-70(50)°C before it enters the homogeniser. It may be pretreated in an emulsifier.

Used for prepg. blood for further use in foodstuffs, to remove its characteristic dark colour, against which prejudices exist. The sudden shock generated by the change of pressure produces the desired effect in a very simple manner. 22.2.78 as 807554 (13pp236).

CROA/ ★ D12 63417B/35 ★DT 2905-998

Separating the cheek muscles of a pigs head - by clamping on conveyor for wedge prising jaws open (NL 21.8.79)

CROASDELL D F 17.02.78-EI-000349

(23.08.79) A22c-17

A half of a pig's head is laid on a moving conveyor in such a way that it is held in a predetermined alignment. It is thus presented to a fixed wedge pointing in the opposite direction to that of the motion of the conveyor. The wedge prises open the jaws progressively so that the cheek muscles are sepd. Pref. the skin of the half head is removed before the half head is laid on the conveyor.

Provides a simple means by which the halves of the gs' heads cut open for veterinary inspection can be pro- ssed economically. The bones, skin and meat of the ad can be easily recovered so that the heads do not have be sold as offal. 16.2.79 as 905998 (13pp1045).

MHB D12 76514A/43 #GB 1551-465
uide delivering fish at same height for processing - pivots against ring and works with balanced back guide
NORDISCHER MASCHINE 19.10.77-DL-201593 (18.10.77-GB-043265)
*(30.08.79) *DL-131-895 A22c-25/08*

fish processing machine has a pair of conveyor belts nd guides supporting and guiding fish at the same level the belts. The guides are a pair of spaced rods in the eed zone horizontally below the belts and parallel to each ther and to the belt lower edges in the conveying run.

The rod ends remote from the belts are pref. splayed part to define an acute angle, and the rods are rigidly onnected to each other and are pivotable downwardly gainst a resilient bias about a horizontal axis transver- sely of the rods. There is pref. a fish back guide displa- ceable against resilient bias or gravity. 18.10.77. as 043265 (4pp1358)

SCHM- D12 47953A/27 =GB 1551-492
Compass saw for cutting up slaughtered animals - has recesses at ntervals along blade and guide DK 3.4.78)
SCHMID & WEZEL 20.12.76-DT-657665
*+P54 P63 R11 (30.08.79) *DT2657-665 +B23d-61/12*

A power saw for carcasses has a longitudinally recipro- cable blade sliding in association with a guide blade fixed o a housing. The saw blade has a guide rod connected at one end and at the other is held by a further guide on the guide blade. The blade back edges have cooperating guide grooves and projections.

The guide groove has gaps open laterally alternately on opposite sides and is formed by oblique surfaces and sloping in opposite directions alternately. The groove and projection are of complementary V-shape, pref. of 60° angle. The pitch of the oblique surfaces is pref. twice that of the saw teeth. 4.7.77. as 027820 (10pp1358)

STRK ★ D12 64159B/35 ★NL 7801-712
Device for cutting around anus and to breast of fowl - cuts circular hole around anus and a curved cut from anus to breast to cut around entrails
STORK PMT BV 15.02.78-NL-001712
(17.08.79) A22c-21/06

A chicken is cut open in such a manner that two cuts are formed, the first a circular cut around the anus and the second travelling from the first in the direction of the breast but also undergoing a sideways displacement away from the centreline and then back to it so that the cutter blade travels around the bird's entrails without the risk of cutting them. The first blade is mounted on a rotating shaft and the second is carried on an arm its direction of movement being determined by a cam and cam follower. The device is mounted on a rotating vertical shaft which rotates at a speed synchronous with the rate at which the chickens are fed into the device. Several of the devices are mounted on one shaft so that the chickens can be automatically processed in a continuous operation.

Device avoids the risk that the entrails of the fowl might be damaged during the cutting open process so that the meat becomes contaminated and the fowl is rejected. 15.2.78 as 001712 (15pp1370)

BALI- ★ D12 B/35 ★OE 7704-856
Device for removing remnants of meat from bone
FA FRANZ BALIK 06.07.77-OE-004856
(15.08.79) A22c-17/04

HORV/ ★ D12 B/35 ★OE 7802-939
Slaughtering bay in abattoir
HORVATH E 24.04.78-OE-002939
(15.08.79) A22b-05/02

NOVI- D12 09630V/06 =SU -633-448
Protein extraction - from slaughter house, dairy and municipal waste, using selective solvents
NOVITAS NUPROT SA 18.07.72-SW-009419
*(D13 D15 D16) (20.11.78) *DT2332-668 A23j-01*

Protein extn. from organic material contg. at least one component other than proteins is effected by processing the organic material to dry powder and treating it with a solvent which acts on only one of components of material but is inactive towards the other component(s); sepg. the residue from the soln. obtd. and removing the solvent from the proteins. Solvents acting specifically on proteins are pref. propylene glycol, m-cresol and 2-methoxyethanol, while solvents acting specifically on the other components, but inactive towards proteins, are pref. glycecerol and ethylene glycol.
Mellchrist K.O., Bul. 42/15.11.78 17.7.73 as 946907 (2pp)

HILG/ ★ D12 64554B/35 ★US 4164-056
Gripping legs of carcass by pair of clamps - mounted on pivoting and extending arm engaging legs
HILGNER O L 19.10.77-US-843582
(14.08.79) A22b-05/16

The legs of an animal carcass are held while the hide is stripped. A composite jaw is mounted on the end of an articulated arm which brings the jaw into contact with the legs to hold them. When the jaw is closing a pair of clamps move towards a fixed backing plate against which the legs of the animal become trapped. Pref. hot water is directed onto the composite jaw to wash it and maintain sterility.

The carcass is moved through a hide stripping station on a overhead conveyor and the hide is pulled upwards while the free legs are held clamped. 19.10.77 as 843582 (9pp295)

UNIC D12 83304Y/47 =US 4164-057
Food stuffing device for skins - with bulbous rim on throat ring for adjustable contact area with skin (BE 14.11.77)
UNION CARBIDE CORP 14.05.76-US-686425 (05.10.77-US-839560)
*Q31 (14.08.79) *DT2721-311 A22c-11*

Size in food casing stuffing (e.g. sausages) in which the casing is first expanded from inside and then contracted from outside is controlled by increasing the area of contact during contraction by changing the direction of progression of the casing from a first position where there is minimal circumferential contact to a second position where there is max. contact. In the second position the casing passes through a traverse in a direction opposite to its progression direction.

A uniform prod. which will not split during cooling can be produced. 5.10.77 as 839560 Div.ex 4077090 (7pp)

TEEP ★ D12 64645B/35 ★US 4164-536
Forming fibrous tube for sausages - with removal of viscose, coagulating liq. for tube in a foamed state
TEE PAK INC 18.04.78-US-897327
A32 (A11 A97) (14.08.79) B29f-03/10 D01f-01/08

Gas is mixed with the liq. inside a descending fibrous tube before or as the liq./gas mixt. is sucked away (through pipe). The tube is impregnated with viscose as it descends over the mandrel and the viscose if regenerated by the liq. inside and outside the tube.

The formation of a gas/liq. foam enables the spent regeneration liq. to be easily withdrawn with reduced suction in the pipe. The fibrous tube is thereby not sucked down onto the mandrel and deposits of viscose on the mandrel slip rings are avoided.. The fibrous tube is used for casing sausage meat. 18.4.78 as 897327(6pp1320)

CENS ★ D12 64667B/35 ★US 4164-589
Meat pumping brine contg. soy isolate - treated with lipid to give dispersion of low viscosity
CENTRAL SOYA KK 05.09.78-US-939240 (21.01.77-US-761424)
(14.08.79) A23l-01/31

Meat is stitch pumped with a brine contg. a soy protein isolate, contg. > 90% protein, and a 10% dispersion of which is non-gellable on heating to 100°C for 30 mins., and on cooling has a viscosity less than 1000 poise. The isolate has $\leqslant$ 2% of lipid material on its surface.

The lipid material reduces the viscosity of the isolate dispersion, allowing protein solns. of greater concentration to be pumped. More water carrying salts can be pumped into meat e.g. ham, without reducing the protein content to an unsuitably low value. 5.9.78 as 939240(5pp955)

D13: OTHER FOODSTUFFS

IREK- D13 21177V/12 =DS 2139-917
Ice cream prepn/dispensing - with constant circulation between storage and dispensing vessels
IREKS GMBH 10.08.71-DT-139917
*Q75 (23.08.79) *CH-546-383 A23g-09/22*

A machine for the prodn. of soft ice cream, which is arranged to dispense portions for eating from a freezer container for the goods which are ready, is sepd. in space from the store for the starting mixt. A line is provided for delivering the starting mixt. to the freezer, and the design is such that during long standing times between working, whilst the mixt. becomes warm in the transporting line, there is no possibility of the penetration of bacteria.

Store and freezer are connected by a delivery and a return line. Forward feed and return open into a stock chamber in the freezer and pumps are provided for circulating the mixt. between freezer and store. 10.8.71 as 139917 (5pp1014)

NEST D13 32763T/21 =DS 2153-848
Frozen food extracts mill - with revolving cutters leading to less dust in product
SOC PROD NESTLE SA 04.11.70-CH-016342
*P41 (23.08.79) *DT2153-848 A23f-01/08 A23f-03 B02c-17/04*

A grinder with a drumlike housing inside which there is a central feed pipe for the goods to be ground, has a cage free to rotate with a radially permeable mantle. The grinder yields a prod. which, having a fines content of $<$ 10 % and an improved uniformity of grain size, is well suited to freeze drying.

As normally the feed pipe is fixed, the cage driven shafts are spaced out parallel to the feed tube and are fitted with cutters. 28.10.71 as 153848 (5pp1014)

COOP- D13 31541U/22 =DS 2260-119
Casein-based protein fibres - useful as a meat substitute
COOPERATIEV CONDENSFAB (COO -) 10.12.71-NL-016966
*(23.08.79) *BE-792-473 A23j-03*

Edible protein fibres are based on a casein complex contg. $\geqslant$0.04 moles alkaline earth metal ions, $\geqslant$ 0.005 moles metal ions and/or ammonium ions and $\geqslant$ 0.012 moles anions of polybasic acid per 100 g protein. The fibres are heat- and storage-stable and can be used as a meat substitute. 8.12.72 as 260119 (6pp068)

UENO D13 36606A/21 =DS 2749-751
Preserving cheese preparations with powder preservative - contg. sorbic acid and readily water-soluble substance
UENO SEIYAKU OYO KE 17.03.77-JA-028592
*E17 (23.08.79) *BE-860-793 A23c-19/10*

Process for preservation of mellow cheeses comprises addition of a powdered mixt. or granulate (particles size $>$ 300 μ), contg. finely divided sorbic acid, (5-90 wt.%), and a water-soluble solid, (95-10 wt.%). Prepn. of the additive comprises mixing the components, followed by powdering or granulating and drying. Pref. water-soluble solids are sugar, sugar alcohols, organic acids or their salts or phosphates. 7.11.77 as 749751 (6pp047)

KRUG- ★ D13 63235B/35 ★DS 2828-992
Instant sugar-contg. powders - made by heating dextrose-contg. powder mixts. to release water of crystallisation, and drying the resulting agglomerate
KRUGER & CO KG 01.07.78-DT-828992
(D17) (23.08.79) A23c-09 A23f-01/08 A23f-03 A23l-01/18 A23p-01 C13f-03

Instant sugar-contg. mixts. of powdered substances are made in which the sugar used is at least partially dextrose (α-D-glucose monohydrate) used at $\geqslant$ 9 wt. % on the total mixt. The dextrose-contg. mixt. is heated until the water of crystallisation in the dextrose is released and an agglomerate is formed. The prod. is then dried to form the instant powder.

The process is simpler to carry out than prior art processes and gives instant powders which dissolve rapidly without stirring or other mechanical aid when sprinkled onto water or other liquids such as milk. The process is useful for making e.g. instant sugar powder, instant cocoa drinks, etc. 1.7.78 as 828992 (3pp513)

SCHU/ ★ D13 63241B/35 ★DS 2840-496
Fluidised bed installation reacting solid matter and gases - esp. for polymerisation, heat treatment of coffee beans etc., giving accurate control of periods of interaction
SCHUMACHER H 18.09.78-DT-840496
A18 J04 (A28) (23.08.79) B01j-08/38 C11b-01/04

Heat sensitive materials are subjected to a brief, gentle, thermal processing in a fluidised or swirling bed, in an operation for the carrying out of reactions between solid materials and gases and/or vapours or gas and vapour mixtures. In the process, the gas and/or the vapours or the gas-vapour mixture may constitute the swirling medium or be the swirling and reaction medium also. The solid matter is maintained in the swirling condition, whilst falling freely inside the reactor, with the help of rapidly rotating agitators, and the solid matter is contacted uniformly in countercurrent by the processing gas, the vapour or the gas-vapour mixture.

The gas and/or gas-vapour mixture is injected continuously and constantly as is usual through bores and/or slots in the ribs supporting the beams forming the canted beam floor. The processed solid matter is allowed to pass through the temporarily stepped floor which opens and closes continually, and the gas or gas-vapour mixture, possibly after regeneration is recycled into the reactor. The processing pressure is pref. $\ngtr$ 20 bar and the gas or vapour or gas-vapour mixture temp. at the reactor inlet are 90-110°C.

Used for controlled chemical processes such as polymerisation, oxidation, hydration, and the thermal treatment of seeds, beans, coffee, tea, etc. in which the contact between the solid matter and the gaseous medium is brief and abrupt. 18.9.78 as 840496 (7pp1014)

BOVI/ ★ D13 63288B/35 ★DT 2806-740
Mixing fodder constituents - by weight-batching each constituent from silo and passing fodder onto conveyor leading to buffer tank with level indicators
BOVINGLOH A 17.02.78-DT-806740
C03 P41 (23.08.79) B01f-15/04 B02c-23/02

The constituents of a fodder are mixed by weigh-batching each constituent from a silo. All the weigh-batching units operate simultaneously and discharge their contents onto a conveyor. The conveyor discharges into a buffer vessel, contg. a sensor which starts the conveyor when the buffer vessel is empty and stops it when the buffer vessel is full. The buffer vessel discharges into the mill, typically a hammer mill.

System is simple and economic to operate. 17.2.78 as 806740 (11pp236).

GERC/ ★ D13 63293B/35 ★DT 2806-804
Inhibiting lipase with malonic acid di:ester - or O-acyl-tartronic acid di:ester, e.g. for treating obesity and hyperlipaemia
GERCKEN G 17.02.78-DT-806804
B05 E19 (23.08.79) A61k-37/64 C07g-07/02

Lipases are inhibited by using as substrate-analogous inhibitors malonic acid diesters (I) or O-acyl-tartronic acid diesters (II).

(I) and (II) contain medium-to-long-chain alkyl gps. so hat their hydrophobic properties are similar to those of he natural triglyceride substrates.

Used for medical and industrial purposes and in the ood industry, e.g. for treating adiposity or hyperlipaem-a and protecting fats on the skin or in foods against microbial spoilage. 17.2.78 as 806804 (5pp1251).

MENR- ★ D13 63325B/35 ★DT 2807-208

Beverage powder contg. gelatin - soluble in hot water and useful as dieting aid

MENRATH KG 20.02.78-DT-807208

(23.08.79) A23l-02

Powdered beverage mixt. soluble in warm water to give a gelatin-contg. beverage, comprises an instantly-soluble beverage powder (A) to provide flavour, and finely-divided gelatine powder (B). A quantity of the mixt. intended for reconstitution with 125cc. water contains 2-5(3)g. (B).

Pref. (A) and (B) have particle size about 60 mesh. Typical (A) are coffee, fruit-juice, instant cocoa, soup and tea powders. The mixt. is pref. divided into portions and packaged in vacuum.

As a dietary aid, (B) alleviates the feeling of hunger, is rich in protein but contains relatively few calories. When the mixt. is made up with hot water (B) dissolves easily and does not tend to form clumps. 20.2.78 as 807208 (13pp1251).

CHAJ/ ★ D13 63390B/35 ★DT 2905-007

Edible, fibre-contg. prod. from soybean husks - by extn. with aq. alcohol to remove unpleasant flavours (NL 22.8.79)

CHAJUSS D M 20.02.78-IL-054085

(23.08.79) A23l-01/20

Prodn. of food from soyabean husks (seed skins) comprises extracting them with an aq. alcohol soln., then sepg. the extract and removing the residual alcohol from the husks to give an alcohol-free, extracted dried prod. The husks may also be extracted together with the soyabean 'meat' which is sepd. after extraction.

Used for human consumption. The husks (cheaply available as a by-prod. of soyabean oil recovery) contain much cellulose (up to 50%) and hemicellulose, but little oligosaccharides and no starch, soare useful for providing fibre in human diets. Normally they are used as animal feed because of their unpleasant taste but this is eliminated by aq. alcohol extn. 9.2.79 as 905007 (7pp1251).

DASP- ★ D13 63401B/35 ★DT 2905-575

Peeling fruit and vegetables - by heating with aq. alkali contg. potassium carbonate or phosphate (NL 21.8.79)

DE DANSK SPRITF A/S 17.02.78-DK-000722

*E34 (23.08.79) A23l-01 A23n-07/**

Fruit and vegetables are peeled by heating with an aq. alkali soln. in which the alkali is partly or entirely K_2Co_3 and/or K phosphate.

Quicker peeling is achieved than with solns. contg. only KOH or NaOH, and open vessels can be used. The method can be used to peel produce not intended for cooking. 14.2.79 as 905575 (8pp1251).

HYGI- ★ D13 63448B/35 ★FR 2409-008

Low calorie dietetic fibre based foodstuff - contg. bran cereal germs, sweet cholagogue and fruit

HYGIENE NUTRITIONNE 17.11.77-FR-034605

(20.07.79) A21d-13/08 A61k-35/78

Foodstuff comprises cereal bran, cereal germs, a sweet cholagog and a paste, compote, or the like, of fruit rich in pectines and/or dictectic fibres. The prod. is in the form of a speckled pasty cake with a homogenous structure

Pref. the speckled paste contains apple compote and fig paste. Pref. the cholagog is sorbitol. A pref. compsn. comprises 30% flour, 32% bran, 2.4% wheat germ, 9.2% sugar, 7.1% fatty material, 1.7% sorbitol, 8.5% apple compote, 5.9% fig. paste, 0.3% raising powders, 0.2% salt and 2.7 - 3.5% water.

The prod. contains plant fibres which undergo some bacterial degradation in the color, is rich in vitamins, increases the weight of stool, restricts the spasmodic instive activity of the color, regulates and accelerates intestinal transit and inhibits constipation. 17.11.77 as 034605 (10pp950)

ARIE- ★ D13 63449B/35 ★FR 2409-010

Low calorie dairy prod. esp. yogurt, milk, mousse or cheese - contains galactose and glucose as replacement for lactose, to improve taste etc.

ARIES E SA 16.11.77-FR-034399

(20.07.79) A23c-09/12

Low calorie dairy prod. is claimed in which 65-99% of the lactose normally present in the compsn. is replaced in situ with galactose and glucose. The prod. is pref. frozen condensed milk free of lactose microcrystals bonded to proteins during thawing and is therefore non pasty and preserves the original taste of milk, being non-sterilsed. In other pref. embodiments the prod. is a yogut, a mousse or a cheese.

The prod. has a better taste than UHT milk, does not require sterilising and can be stored cold. 16.11.77 as 034399 (15pp950)

FRAN- ★ D13 63450B/35 ★FR 2409-011

Controlled maturation of milk for cheese prodn. - by thermal treatment of milk stock sample to develop lactic bacteria

FRANCHE-COMTE UNION 16.11.77-FR-034960

(20.07.79) A23c-19/02

Controlled maturation of milk for its conversion into cheese comprises, in order, (a) sampling a restricted volume of the milk to be treated, called 'foot' amounting to 5-25% of the total volume, (b) keeping the foot for 2-7 hours at a temp. compatible with the development of lactic bacteria, (c) cooling the foot at a temp. which is at most equal to the keeping temp. of the remaining volume of milk, and (d) introducing the foot into the remaining volume of milk kept at $< 10°C$.

Process allows accurate control of the maturalion and gives prod. of superior quality than in prior art. 16.11.77 as 034960 (8pp950)

IMPU- D13 52199X/28 =GB 1551-378

Converting fat in water to water in fat emulsions - esp. in a fritz type butter churn

IMPULSA VEB (BALL/) 16.06.75-DL-186641

*P13 (30.08.79) *DL-119-697 A01j-15/12*

A granular water-in-fat emulsion in aq. phase, partic. butter in buttermilk, is made by mechanically working a fat-in-water emulsion, partic. cream, while measuring the electrical conductivity to detect the sudden transition from first emulsion to intermediate structure, or from structure to final emulsion, the working then being continued.

The appts. pref. includes a treatment chamber with a central conductivity electrode controlling the mechanical working occurring between electrode and chamber discharge end. 15.6.76. as 024815 (6pp1358)

PATE- D13 54749A/30 =GB 1551-594

Whey treatment giving prods. with increased protein content - by preliminary removal of lactose by crystallisation and then subjecting to ultrafiltration

PATENT TECHN INC 10.01.77-US-762820

*(30.08.79) *NL7800-265 +C07g-07*

Whey derived from a source having variable protein content is processed to obtain a prod. having whey protein to a desired predetermined protein level. Method comprises removing 45-55% of the lactose content of the source whey by crystallisation and removal of the crystals and subjecting the mother liquor to ultrafiltration to produce a protein rich fraction and a lactose rich permeate. The ultrafiltration is controlled to provide the desired protein level.

During the processing some of the mineral salt content of the material may be removed e.g. by electrodialysis or crystallisation. In the ultrafiltration process, an acceptable and economical flux rate can be provided and long operating cycles are possible before the membrane need be replaced or regenerated. 9.1.78. as 000624 (8pp945)

MERE ★ D13 63486B/35 ★GB 2014-424
Low decomposition rate granulated dietetic foodstuff - comprising casein and carob flour and opt. a coating material
MERCK PATENT GMBH 16.02.78-DT-806514
(30.08.79) A23j-03/02 A23l-01/30

A dietetic foodstuff, in the form of granules of particle size 0.5-5 mm., comprises casein, together with, referred to the dry substance, 0.4-2 wt.% carob flour. The granules are opt. also coated with a vitamin-contg. and/or drageeing mantle.

The granulate is prepd. from a mixt. of the casein and carob flour with about the same amt. of water. The casein is pref. obtd. by acid pptn. from skimmed milk and contains 8-20, esp. 11-13 wt.% moisture. The carob flour pref. has a viscosity of 20-100 cps., as a 1 wt.% aq. soln. at 25°C. The particles are generally cylindrical, pref. with dia. 0.5-2 mm and length 1.5-5 mm.

The foodstuff is esp. suitable for overweight and obesity treatment. The carob flour improves the granulability of casein. The particles are compact and solid. The rate of decomposition in the alimentary tract is low and resorption is slow. The granulate is thermally stable, not changing colour after storage for 3 months at up to 42°C. It shows reduced susceptibility to microbial contamination, compared with known prods. based on curds. 9.2.79 as 004708 (4pp558)

UNIL ★ D13 63487B/35 ★GB 2014-426
Emulsifier mixt. for artificial cream - comprising lecithin and ionic lipophilic and polyoxyalkylene condensate nonionic hydrophilic emulsifiers
UNILEVER NV 15.02.79-GB-005362 (17.02.78-GB-006399)
(30.08.79) A23l-01/19 B01f-17/34

An artificial cream compsn. comprises an aq. dispersion, free of milk protein, of edible fat and contains a novel mixt. of lecithin with an ionic lipophilic emulsifier and a nonionic hydrophilic emulsifier comprising a polyoxyalkylene condensate. The use of a lauric fat; soya lecithin, a lactylated laurate, palmitate or stearate, e.g. Na stearoyl lactylate; and a mono-laurate or -stearate sorbitan ester, e.g. polyoxyethylene sorbitan monostearate, is claimed.

The compsn. can be used as coffee whitener, pouring cream or topping, or whipped to a light cream. It provides a cheaper alternative to the natural prods. and shows superior uniformity of whip. It can be high temp. sterilised to enhance its shelf-life. 15.2.79. as 005362 (4pp558)

HOHN ★ D13 63585B/35 ★J5 4089-893
Edible buffering material prepn. - by adding corn powder, softening agent, foaming agent and opt. water to active sludge then HF heating
HOHNEN OIL KK 26.12.77-JA-157149
C03 Q34 (17.07.79) A23k-01 B65d-65/38 B65d-81/36

Edible buffering material is prepd. by adding (a) corn powder, (b) softening agent, (c) foaming agent and, opt. (d) water to condensed or powder of active sludge and then expanding by high-frequency heating.

Pref. (a) are e.g. corn starch powder, wheat powder, etc. (b) are e.g. propylene glycol, glycerol, sorbitol, etc. (c) are e.g. sodium hydrogen carbonate, ammonium carbonate, baking powder, etc. The amt. of (a) added is 20-80 wt.% based on that of active sludge, that of (b) 5-20 wt.% and that of (c) 5-10 wt.%.

A low-priced active sludge as waste substance is effectively utilised. The edible buffering material does not pollute environment. After the buffering material has been used, it can be used again as feed. 26.12.77 as 157149 (2pp90).

TOXW ★ D13 63709B/35 ★J5 4090-199
Extracting and purifying plant ingredients from e.g. stevia - by adding metallic ions to plant extract and removing impurities by electrolysis
TOYO INK MFG KK 27.12.77-JA-156362
B04 E13 (B03) (17.07.79) C07g-03

Plant ingredients are extracted and purified by adding metallic ions to plant extracts and removing impurities due to action of the produced adsorbent, conductivity of the concurrently-produced salt and action of the adsorbent produced by electrolysis.

Sweetening ingredients are extracted from stevia, sweet tea or liquorice plant by using metallic salts or electrolysis. Impurities can be removed economically and even continuously. Electrolysis and addn. of metallic ions can be carried out independently or concurrently. 27.12.77 as 156362 (4pp104).

TOXW ★ D13 63710B/35 ★J5 4090-200
Extn. and purificn. of plant ingredients e.g. sweetener from liquorice - by adding metal ions which form an adsorbent
TOYO INK MFG KK 27.12.77-JA-156363
B04 E13 (B03) (17.07.79) C07g-03

Plant ingredients are extracted and purified by adding metallic ions to plant extracts and removing impurities by the actions of the produced adsorbent.

Sweetening ingredients are thus extracted effectively from stevia, sweet tea, liquorice etc. Impurities are removed economically.

In an example, dried leaves of stevia were pulverised and sieved through 10mm Ø filter. To pulverised crude material (2kg.) was added water (30kg.) and the mixt. was stirred at 80°C for 30 min. and centrifugally sepd. to give a black brown extract (26kg.). To the extract (5kg.) was added aluminium ethoxide (200g.) and the mixt. stirred at room temp. for 1 hr. to decompose aluminium ethoxide. The mixt. was adjusted to pH 7 with dilute HCl and centrifugally sepd. to give a transparent soln. (about 4.5 kg.). The soln. was passed through a mixt. of Amberlite IR 120(H) (200ml.) and IRA 410 (OH) (400μ) at SV = 2 to give a transparent soln., which was evaporated to dryness to give a slightly yellow powder (24g.). Sweetening ingredient comprised 82%. 27.12.77 as 156363 (3pp104).

SANW- ★ D13 64025B/35 ★J5 4092-619
Antiseptic prepn. - by impregnating vegetable carrier such as potato pulp or peat with alcohol
SANWA SOKO KK 29.12.77-JA-158809
(D17 D22) (23.07.79) A01n-09/24 A01n-17/08

Antiseptic is obtd. by impregnating vegetable carrier such as potato pulp or peat with alcohol. Prod. has a long-lasting effect. Specifically the potato pulp is the dregs obtd. after removal of starch from potato. Pref. the alcohol is a lower alcohol which is volatile at room temp. e.g. ethanol. The antiseptic is sealed with plastics film or metallic foil. Before use, the seal is removed. 19.12.77 as 158809 (2pp108).

ROKK- ★ D13 64037B/35 ★J5 4092-654
Compsn. for mfg. fried cheese - consists of natural cheese and albumin
ROKKO BUTTER KK 27.12.77-JA-159700
(23.07.79) A23c-19/12 A23l-01

A compsn. (I) composed of natural cheese (II) and 0.1-20.0 wt.% of albumin (III) is made by (i) mixing (II) with 1-4 wt.% of melted salt (IV) and 1-20 wt.% of (III), (ii) adjusting the water content to 40-50 wt.%, (iii) moulding the mixt. to suitable shape after heating, melting and mixing, and (iv) cooling it.

As (III), egg-(III) and milk-(III) are used, 15-30 wt.% of sugars may be added to (III) or 0.1-5.0 wt.% of sugars may be added to (I). As sugars, lactose and/or sucrose are/is suitable. Examples of (IV) are pyrophosphate, sodium or potassium polyphosphate, sodium orthophosphate, sodium citrate, etc.

When (I) is fried, (I) does not melt and is not collapsed. Using (I), fried cheese is produced. 27.12.77 as 159700 (3pp42).

HOGY- ★ D13 64038B/35 ★J5 4092-662
Cocoa flavouring used in tobacco or cocoa substitute - comprises roasted and ground cereal protein, cacao fat, cacao bean components and sugar
HOGYOKU KORYO KK (NISO) 29.12.77-JA-160002
P15 (D18) (23.07.79) A23g-01 A23l-01/23 A24b-03/12

Cocoa flavouring (I) is obtd. by (i) mixing cereal protein (II), cocoa fat (III), cocoa bean components (IV) and sugars (V), (ii) roasting the mixt. at 80-150°C and (iii) grinding the mixt. to a powder. A claimed substitute for cocoa is composed of (I), cyclodextrin (VII) and dextrin (VIII) of

.E. <30, the contents of (VIII) being 5-40 wt.% or the ontents of (VII) and fats being 5-40 wt.% and 5-15 wt.% espectively.

Pref. (II) is corn protein, wheat gluten, defatted soy ean powder, wheat extract protein, etc. (III) is cocoa utter, hardened palm oil, etc.; (IV) is cocoa shell, the lcohol-extract of this material; and (V) is glucose, glyerin aldehyde, xylose, fructose, sucrose, maltose, dexrin, maltodextrin, etc. The wt. ratio of (II)/(III)/(IV)/(V) n step (i) is 100/10-180/5-120/50-200. The roast mixt. s pref. ground in frozen state at below -30°C. 29.12.77 s 160002 (5pp42).

HITA D13 12666B/07 =J7 9022-337

nk compsn. for jet printing on food, e.g. fruit or eggs - includes vater soluble red dye in aq. alkali soln. contg. shellac binder and norpholine fatty acid salt

HITACHI KK 06.06.77-JA-065798

*E24 G02 (06.08.79) *J54001-103 C09d-11*

An ink of pH 8.0-10.0 consists mainly of water-soluble dye and binder in alkali aq. soln. The dye is New Coccine food red dye 102), Phloxine (food red dye 104) on Acid Red food red dye 106). Shellac binder and morpholine fatty acid salt are also included.

The ink is excellent in adhesiveness and water resistance, and has excellent properties for food hygiene.

In an example, white lac aq. soln. (solid content 25% contg. 1% of morpholine fatty acid salt) 20 pts. wt. Phloxine 1 pts. wt. ethyl alcohol 50 pts. wt. and water 35 pts. wt. were mixed and stirred for 1 hr. at room temp., and filtered, obtaining an ink of viscosity 4 cps. pH 8.5. 6.6.77 as 065798 C09d-11/00 (6.8.79) HITACHI KK (3pp) (J54001103)

NISE- ★ D13 64135B/35 ★J7 9022-491

Coating rice grains to provide storage stability and gloss - using aq. dispersion of starch and sugar contg. edible nonionic surfactant

NIPPON SEIMAI KOGYO 00.00.71-JA-084041 (28.02.70-JA-016691)

(07.08.79) A23l-01/10

Method comprises dispersing starch and sugar in water by use of edible nonionic surfactant, and coating the dispersion on rice. The coating gives attractive gloss to rice grains and provides long term storage stability. The coating meets food safety law requirements.

The sugars used include glucose, maltose, dextrin, etc. Suitable edible nonionic surfactants include fatty acid ester of surcorse, glycerin, sorbitan, propyleneglycol, etc, alginic acid ester of propyleneglycol, etc. Specifically, the starch and sugar are used at 50-100 pbw per 100 pbw water, and the surfactant is used at 10-50 pbw per 100 pbw water. The dispersion can also contain seasonings, vitamins, aminoacids, etc. It is applied to rice by spraying or trickling, in an amt. of pref. 1-3 pbw solids per 100 pbw rice. 28.2.70 as 84041/71 Div. ex 16691/70 A231-1/10 (7.8.79) NIPPON SEIMAI KOGYOKAI (2pp83)

DAIY ★ D13 64136B/35 ★J7 9022-492

Boiled sweet chestnuts prodn. - by impregnating with sugar soln., roasting, coating with paraffin emulsion, packaging with aluminium foil and sterilising

DAIYA TOKKYO PROJEC 21.04.75-JA-047418

(07.08.79) A23b-07/08

Method comprises impregnating chestnuts with a sugar soln. in an evacuated vessel, roasting the chestnuts in a rotary oven, coating the roasted chestnuts with an emulsion of a paraffin, packaging the chestnuts with Al foil and sterilising by heat and pressure. 21.4.75 as 047418 A23b-7/08 (7.8.79) DAIYA TOKKYO PROJECT (2pp83) (J51123859)

CHID- ★ D13 64137B/35 ★J7 9022-493

Processing Tosakamodoki seaweed - by immersing in aq. weak alkali soln. and dil. aq. alum soln., and salting

CHIDORI KAISO KK 08.05.75-JA-055806

(07.08.79) A23l-01/33

The mthod comprises immersing Tosakamodoki in aq. weak alkali soln for a few days; washing with water, immersing in dil. aq. soln. of alum for a few sec. washing with water; and salting. 8.5.75 as 055806 A231-1/337 (7.8.79) CHIDORI KAISO KK (2pp83)(J51135299)

NISW D13 10892B/06 =J7 9022-496

Washing granular defatted soybean protein with aq. ethanol soln to remove specific soybean taste and flavour

NISSHIN OIL MILLS KK 01.06.77-JA-063225

*(07.08.79) *J53148-567 A23j-03*

The aq. ethanol soln. has ethanol concn. 60-80 w/w%. The granular soybean protein is prepd. by mixing defatted soybean having protein content 40-70% usually ca. 50%, with water to obtain dough of 25-40% moisture content, extruding the dough using cylinder, screw and extruder at 120-200°C under the pressure of 20-60 kg/cm^2 through the die, cutting the extruded protein with revolving knife attached at the outlet of the extruder, granulating the cut pieces and drying them to moisture content < 10% pref. 6-8%.

Thus obtd., granular soybean protein has had undesirable taste and flavour specific to soybean. Usually aq. ethanol soln. is applied > 4 times pref. 5-7 times in wt. on the granular soybean protein and the washing is practised at 50-70°C for semi-dry granular soybean protein at the outlet of the extruder or for dry granular soybean protein. 1.6.77 as 063225 A23j-3/00 (7.8.79) NISSHIN OIL MILLS KK (3pp)(J53148567)

ASAH- ★ D13 64138B/35 ★J7 9022-498

Mfg. cheese-like food from soybean - by culturing lactobacillus in soybean milk, sepg. whey from curd, adding protease and compressing

ASAHIMATSU KORIDOFU 05.06.74-JA-063751

(07.08.79) A23c-19 A23l-01/20

Method comprises culturing lactobacillus in soybean milk, separating whey from cured, adding to the curd salt 0.01-10 PU of protease per g protein, and compressing the mixt at 0.5 to 5 kg/cm^2 to squeeze out the water to a water content of 40 to 55%. 5.6.74 as 063751 A23c-19/00, A231-1/20 (7.8.79) ASAHIMATSU KORIDOFU KK (6pp83)(J50155661)

YAMA/ D13 24712B/13 =J7 9022-499

Extn. of egg-shell membrane protein used for heavy metal removal - by treating with reductant to break di:sulphide bond, acidifying and sepg. the protein by isoelectric point pptn.

YAMAGUCHI M 23.07.77-JA-087895

*(07.08.79) *J54023-140 A23j-01/08*

Method comprises (a) treating egg shell membrane as it is or after sepg. it from egg shell mechanically with the reducing agent for disulphide bond such as Na$_2$S, (b) adjusting pH of the obtd. extract to 3.5-5.5 with mineral acid or organic acid and (c) sepg. the solubilised egg shell membrane by isoelectric point pptn.

The extn. is practiced by adding 0.05-10 M reducing agent soln. to egg shell membrane, of which amt. is above 10 times in wt. as egg shell membrane protein, and heating the mixt. at > 90°C at pH 7-13 for 0.5-1 hr. As the reducing agent for disulphide bond, Na$_2$S, thioglycollic acid, its alkali metal salt, 2-mercaptoethanol, etc. can be used.

Egg shell is ca. 8-11 w/w% on egg and it contains 4-5 w/w% of shell membrane, which is structred of pseudokerating, mucin-like protein, etc. The egg shell membrane protein which can bond with heavy metal such as Pb, Cu, Hg, etc. except hexa-valent chrome and iron, can be obtd. Being indeigestible, the protein is bonded with heavy metals in digestive organis and can be evacuate as excrements with heavy metals. It can be also used as the removing agent for heavy metals in food industry. The method can be also used for prepg. the protein showing bonding ability with heavy metals from keratin protein material such as wool, feather, etc. The egg shell discarded is free of proteins and can be used as excellent Ca source for food, feed, etc. 23.7.77 as 087895 A23j-1/08 (7.8.79) YAMAGUCHI M (3pp)(J54023140)

EZAK ★ D13 64140B/35 ★J7 9022-501

Foamed gelatin jelly mfr. - by charging into sealed container contg. air, sealing, heating and cooling while shaking until gelation

EZAKI GLICO 28.02.75-JA-025284

(07.08.79) A23l-01/04

Method comprises charging gelatin jelly compsn. into sealable container in an amt. of 40-80 % of the capacity of the container, sealing the container, heating the container to fuse and sterilise the compsn., and cooling the container with shaking until the compsn. reaches gellation temp. 28.2.75 as 025284 A231-1/04 (7.8.79) EZAKI GLICO (3pp83)(J51101171)

EZAK D13 87567X/47 = J7 9022-502

Multilayer foamed jelly prepn. - by mixing gelatin jelly with acid (e.g. citric acid), colour, flavour and carbon dioxide in a sealed vessel

EZAKI GLICO (EZAK-) 28.03.75-JA-038104
*(07.08.79) *J51112-558 A23l-01/06*

40-80% (Against the vol. of vessel) of materials of gelatin jelly (for example, gelatin, sugar (saccharose, glucose), an acid(citric acid, malic acid), flavour, colour, water) and carbonic acid gas are put into vessel that is able to seal, and the vessel is sealed. The contents are then heated, sterilised, stirred and cooled. Thus edible gelatin gelly is obtd. 28.3.75 as 038104 A231-1/06 (7.8.79) EZAKI GLICO KK (3pp)(J51112558)

ALPI- ★ D13 B/35 ★OE 7803-909

Whey product prepn.

ALPI MILCHIND REG G 30.05.78-OE-003909
(15.08.79) A23c-21

SLYU/ ★ D13 64212B/35 ★SU -633-516

Separator for diseased and healthy potatoes - has rotating perforated drum with inclined internal troughs in tank of liquid

SLYUSARENKO M YA 05.01.76-SU-310831
(26.11.78) A23n-13 A23n-15

The appts. comprises a tank holding liquid and a rotatable perforated drum, with inclined troughs mounted around its internal surface. Blades are mounted on one end of the drum, inclined towards the end for discharge of reject potatoes. Potatoes are fed into the drum from a hopper, healthy potatoes falling to the bottom and being carried to the opposite end where they enter a discharge hopper. Diseased potatoes, which are of lower s.g. are suspended and entrained by the blades for separate discharge.

Slyusarenko M.Ya., Slyusarenko V.M., Bul. 43/ 25.11.78 5.1.76 as 310831 (4pp1358)

TARK/ ★ D13 64386B/35 ★SU -633-847

Urea-phosphate feed and preserving additives prepn. - by reacting urea with orthophosphoric acid and treating with anticaking agent

TARKHANOVA L S 26.07.74-SU-048124
C01 E11 (28.11.78) C05c-09

The addn. of powdered urea-formaldehyde (I) to an orthophosphoric acid-urea is made in the amt. of 20-30% expressed on urea (III) at temp. 30-105°C.

This increases the storability of the urea phosphates Tarkhanova L.S., Kuznetsova A.E., Karibaev K.K. et al. Bul. 43/25.11.78 26.7.74 as 048124 (2pp48)

FIVE D13 25720A/14 #US 4164-052

Screen of rotating rollers for cleaning beets - with associated helicoidal springs and blades around peripheries

FIVES-CAIL BABCOCK 21.06.76-FR-018757 (28.03.78-US-890994)
*P12 P43 (14.08.79) *FR2355-464 A23n-13*

Beets are cleaned in a self-propelled appts. comprising a hopper for dirty beet mounted on a raised platform on a frame, a conveyor to move beets from the hopper to a screen for removing the dirt, and a second conveyor beneath the screen to collect and discharge the dirt. Both the conveyors extend longitudinally of the appts. and the cleaned beets and dirt are discharged from opposite ends of the appts.

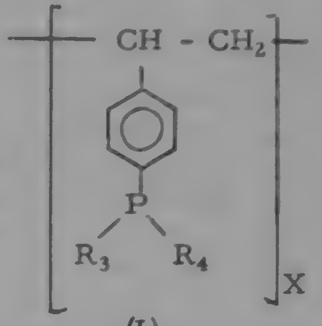
The screen is pref. adjustably inclinable to the horizontal. The end of the dirt discharge conveyor is pref. raised to allow discharge of dirt onto a vehicle, and the beets are discharged into the vehicle. 28.3.78 as 890994 (5pp1376)

PROC ★ D13 64668B/35 ★US 4164-592

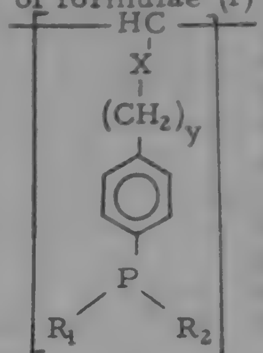
Inhibiting fatty acid hydroperoxide formation during frying - by addn. of oligomeric aromatic phosphine cpds.

PROCTER & GAMBLE CO 13.06.77-US-805666
A97 E11 (A26) (14.08.79) A23d-05/04 A23l-03/34

The flavour of fried foods is improved by drying in fat or oil contg. a polymeric triaryl phosphine cpd. of mol. wt. 600-3000 contg. gps. of formulae (I) or (II).



(I)



(II)

(where x is 2-15, R_3 and R_4 are phenyl, x is O, S or N, R_1 and R_2 are opt. subst. aryl, y is 1-4).

The cpds. inhibit the build-up of hydroperoxides of fatty acids or their esters, Polymers or oligomers of the above mol. wt. range are effective but are not absorbed on digestion. 13.6.77 as 805666 (5pp955)

CARN- ★ D13 64669B/35 ★US 4164-594

Wetting agent contg. lecithin - in carrier oil of glyceride(s) of short chain fatty acids

CARNATION CO 25.05.77-US-800243
(14.08.79) A23c-09/16 A23j-07/02

A wetting agent consists of lecithin contg. ≥ 95% acetone-insoluble lecithin, in an oil carrier having an iodine value of 2.0 and a bland taste, which is liq. at 0°C to room temp The compsn. contains 25-65% acetone insol. lecithin. The oil pref. consists of glyceryl esters of capric acid and/or caprylic acid.

Used esp. for fat contg. powders which are to be dispersed in water e.g. dried milk prods., chocolate and cocoa powders etc. The powders wet rapidly in cold water, and remain wettable for at least a year in storage. The agent does not impart any adverse taste. 25.5.77 as 800243(4pp955)

FIRM ★ D13 64693B/35 ★WP 7900-588

Alkyl ester(s) of 3,5-hexadiene-1-ol - useful as perfume components and aromatising agents e.g. for food, pharmaceuticals and tobacco

FIRMENICH SA (NAFF/) 12.12.78-CH-012637 (06.02.78-CH-001259)
B05 E17 (23.08.79) A23l-01/22 A61k-07 C07c-69/14 C11b-09
D/S: N(CH, DT, GB, JA, US)

(A) Esters of formula (I), in which the 3,4-double bond is cis, are new:

$$RCOOCH_2CH_2\overset{3}{C}H=\overset{4}{C}H-CH=CH_2 \quad (I)$$

(R = 1-5C straight or branched alkyl).
(B) The use of 3(cis),5-hexadien-1-ol (II) as a perfumery and aromatising component is also new.

(I) are perfumary components for use in perfumes and articles such as shampoos, and also aromatising agents for foods, beverages, pharmaceuticals and tobacco. They are esp. used to develop fruit-like notes and are typically used at 0.5-50 ppm in foods and 2-20 wt. % in perfumes. 24.1.79 as CH0006 (15pp1251)

(F) ISR: No relevant documents have been found.

See Also

D12 SU 633448 D16 DS 2724992

D14: FOODSTUFF MACHINERY

RAM/ ★ D14 63400B/35 ★DT 2905-490
rum for mixing and delivering solid materials - has rotating mantle vith carriers enclosing transporting and ejecting worm (NL 21.8.79)
BRAMS S 17.02.78-DK-000714
A31 J02 (23.08.79) A23n-17 B01f-09/08 B01f-13/10 B01j-02/12 B29b-01/06

Mixing drum can be rotated in a vertical plane and has on ts inner mantle surface, a number of carriers for draw-ng the material in the drum over a considerable length of ts rotary path, and causing it to cascade under the action of gravity. A conveyor is fitted in the drum for filling and emptying the material, and extends through one end face. nside the drum it is enclosed below by a collector gulley.

The conveyor and the gulley extend across the full wid-h of the drum from the one end face to the other, and means are provided for opening and closing the gulley so that it occupies a first and a second working position. Material can thus be mixed continuously and mixed material can be ejected.

Used for mixing of relatively coarse matter and powders with very different specific gravities, such as moulding granulates and powdered dyestuffs, as well as fodder for animals and esp. milking cows. The mixer ensures, partic. in the case of fodder that there is no unmixing as the charge is emptied. It is highly efficient, simple to operate and small or large amts. of the mix can be ejected at any time required. 14.2.79 as 905490 (14pp1045).

FMCC D14 28857A/16 =US 4164-590
Pressure vessel steriliser for batches of canned food prods. - recycles limited quantity of heat transfer water to immerse batch
FMC CORP 16.12.76-US-751923 (17.04.78-US-896659)
*+P28 P43 Q31 (14.08.79) *BE-861-779 A23l-01 A23l-03/10 B65b-55*

Food in containers is cooked and cooled in a pressure vessel having a tunnel by introducing an amt. of heating liq. in the sealed vessel filled with the food for flow through the tunnel from an inlet to an outlet so that the liq. is collected in a lower part of the vessel, introducing gas to pressurise the vessel, continuously re-heating and recycling the collected liq. to keep the liq. in the collection pool at a min., discharging the liq. after cooking from the vessel, and replacing it with a cooling liq. at atmos. pressure.

Various food items can be cooked using a min. quantity of heating liq. 17.4.78 as 896659(8pp1376)

D15: WATER TREATMENT

CIBA ★ D15 63162B/35 ★BE-874-398
Elimination of heavy metal ions from waste waters - using adsorbents prepd. from amino cpds., haloacetic acids and reactive halide(s)
CIBA GEIGY AG 24.02.78-CH-002036
A97 (A26) (23.08.79) B01d C02c

A process for eliminating heavy-metal ions from aq. solns. is based on contacting waste waters with a water-insol. adsorbent prepd. from (a) an acylable basic poly-nitrogenous cpd., (b) an aliphatic or araliphatic carboxylic acid contg. a labile substit. or a multiple bond capable of addn. reactions, and (c) a cross-linkable cpd. contg. ≥ 2 reactive substits. which is different from (b).

The adsorbants are used to treat industrial waste waters contg. metal ions with a normal potential >-1.5V (pref. -1 to + 0.85V) at 25°C. Compared with chelating cpds. based on cellulosic materials, the present cpds. have considerably higher adsorptive capacities. They are highly selective, give very stable chelates, and can be regenerated. They can remove up to 95% (in certain cases almost 100%) of the metal ions present in aq. solns. reducing the ion content to <2.5 ppm., often to <0.01ppm. 23.2.79 as 874398 (22pp1329)

DOWC ★ D15 63209B/35 ★CA 1060-592
Flocculating colloidal particles in aq. dispersion - by adding polyalkyleneimine and fly:alkylene amine, for clarifying waste waters
DOW CHEMICAL CO 14.03.75-US-558570
A91 (A26) (14.08.79) C02c-01/40

Flocculation of negatively-charged colloidal particles in an aq. dispersion comprises simultaneous treatment with (a) a polyalkyleneimine (I) polymer of mol. wt. 5000-100000 and (b) a polyalkylene polyamine of formula $NH_2-(C_nH_{2n}NH)_a H$ (II) (n=2-4, a=250-5000). The wt. ratio (I) (II) is 1:99-99:1. Pref. (I) has mol. wt. 30000-60000, and (II) has mol. wt. ≥ 40000.

Used for treating industrial and municipal waste streams. The clarifying effect of the two polymers together is greater than expected from their individual effects, permitting improved flexibility and economy. 9.3.76 as 247445 (10pp1251)

BOTS/ D15 21258V/12 =DS 2243-288
Sewage tank bottom cleaning mechanism gantry - for multiple elongated sewage treatment tanks side by side
BOTSCH B 02.09.72-DT-243288
*(23.08.79) *DT2243-288 C02c-01/36*

Scavenger bridges with a large span, for a number of rectangular, parallel, settling tanks for sedimentary, floating, dry sludge, assembled as units in sewage purifying plants, are of a lightweight design so that manufacturing costs are reduced to the minimum.

The track width of the scavenger bridge is at least a third less than the total width of the tanks, with the total length of the bridge less than the overall width of the tanks also, so that its ends project freely to about the centre of each of the outer tanks. 2.9.72 as 243288 (4pp1014)

WEIS- D15 48922Y/28 =DS 2558-255
Continuous compositing of organic waste and/or sludge - and passing the exhaust gas to a sedimentation tank to aid and accelerate clarification
GEBRUDER WEISS KG (KNEE/) 23.12.75-DT-558255
*(D16) (23.08.79) *DT2558-255 C05f-09*

In a process for the continuous composting of waste organic matter and/or activated sludge, which passes through a vessel top to bottom, whilst the necessary air is distributed uniformly across the bottom of the vessel and flows upwards in countercurrent, the spores, etc. and esp. the heat in the exhaust gases are exploited economically.

The quantity and speed of flow of the air are regulated automatically by CO_2 or O_2 detectors, together with its humidity, whilst its heat is raised to between 30 and 50°C and the exhaust gases are distributed as fine bubbles over the bottom of an activating or sedimenting tank. 23.12.75 as 558255 (4pp1014)

HITA D15 42510A/24 =DS 2753-612
Regenerating zeolite contg. adsorbed ammoniacal nitrogen - by heating in presence of alkali and or alkaline earth metal ions
HITACHI KK 14.01.77-JA-002415 (01.12.76-JA-143402)
*E33 (23.08.79) *DT2753-612 C01b-33/26*

Process for regeneration of zeolites contg. adsorbed NH_3, opt. mixed with activated charcoal contg. adsorbed organic cpds., comprises heating at 100-800° (or 400-800° with active charcoal), in the presence of Na^+ and/or K^+ (1-1.5 moles) and Mg^{2+} and/or Ca^{2+}, (0.5-0.75 moles per mole adsorbed NH_3). 1.12.77 as 753612 (+ 5.1.77 - JA - 000113) (11pp047)

HOHM/ ★ D15 63266B/35 ★DT 2806-378
Desalination of sea-water for drinking - using rotating deep-frozen ice balls as ice seeds to freeze out pure water
HOHMANN H 10.02.78-DT-806378
(23.08.79) C02b-01/12

The salt content of a soln. from which drinking water is to be obtd. esp. by the desalination of seawater, is enriched by the prodn. of ice. During each separate, ice-producing process, actually round balls of ice are produced afresh in any pref. manner, before being mixed with the soln. rich in salt, which is to be frozen. The balls are produced from any kind of water, esp. from sweet water having a content of cooking salt <0.05%. The balls of ice are produced away from the salt soln. to be frozen, and they are at least some millimetres in dia.

The sweet water ice balls serve as ice seeds, and before being used their temp. is reduced to a very low level, in a freezing chamber free from water. The deep-frozen balls of sweet water ice are introduced into the salt soln. to be frozen whilst rotating at a very high speed. The rotation is set up in any pref. manner and very thick new ice shells of actually or practically desalinated water form on the surfaces of the deep-frozen sweet water balls which are rapidly rotating separately and act as ice seeds by crystallisation. Or ice, poor in salt as compared with the soln. to be frozen sets out in thick shells, so that the balls forming the ice seeds are increased in dia. by a multiple of their original dia. 10.2.78 as 806378 Add to 2224043 (29pp1045).

HENK ★ D15 63291B/35 ★DT 2806-799
Aluminosilicate granules contg. binder prodn. - useful for partial softening of drinking water to optimum hardness level
HENKEL KG AUF AKTIEN 17.02.78-DT-806799
E33 (23.08.79) C01b-33/28 C02b-01/44

Prodn. of aluminosilicate (I) granules contg. a binder comprises first adjusting an aq. suspension of (I) of particle size <30μ to pH 3-7, maintaining this pH for 15-120 min., then sepg. the solid. This is washed to remove mother liquor, then (dry or wet) mixed with 10-50(20-40)wt.% silicate binder (based on (I) dried at 100°C).

The mixt. is made into a paste with sufficient water to give pH 3-6.5 and total water content 20-55 wt.% on total solids, then granulated in a mixing granulator with gradual addition of water of pH 3-6.5 to give 45-75 wt.% water on solids. The granulate is then dried and hardened by heating at 750-850(780-810)°C for 1-30(5-15)min. They have particle size 0.08-1.5mm.; Ca binding capacity ≥50(100-200)mg Ca per g. at 22°C, and are of compsn. 0.7-1.5 $Na_2O.Al_2O_3.0.8\text{-}6\ SiO_2$.

(I) is an ion-exchanger for domestic partial softening of water. They have low alkalinity; soften water to the optimum value for drinking (2-10, esp. 3-7°dH); have high capacity and rapid action, and have good stability towards hot or cold water. 17.2.78 as 806799 (2pp1251).

SCHU- ★ D15 63314B/35 ★DT 2807-047
Circulator for fermenting sludge sedimenting into vessel sump - has submerged branches sucking up and spraying from centre
SCHULZE O GMBH 18.02.78-DT-807047
(23.08.79) C02c-01/16

An arrangement for circulating sedimenting sewage sludge, in a container with a bottom sump and esp. a circular bottom sump having a vertical cross-section of U- or V-form, consists of a screw shovel with guide tubes which branch out in the bottom zone from the central guide tube, as arms dipping down into the sump.

Used to break up the layer of floating matter on the surface of the fermenting sludge, which if it becomes thick, prevents the escape of gases from the fluid below. The arrangement ensures the faultless circulation of the sludge from the gutter-like sump. It can be applied to any type of vessel in which the sump obstructs the agitation of the sludge. 18.2.78 as 807047 (9pp1045).

HAGE/ ★ D15 63354B/35 ★DT 2807-523
Automatic sterilisation of water by chlorine or bromine - from containers permitting reaction of acid on salts
HAGER K 22.02.78-DT-807523
(23.08.79) C01b-07 C02b-01/36

Gas is produced by the action of an acid or chemicals, which can be used for the sterilisation of water. Used for the sterilisation of swimming pool, drinking water and/or water for general purposes. There is no addn. of chemicals to the water so that the equilibrium of dissolved salts is not affected. The action is independent of the pH value of the water. The matter does not require daily attention since the appts. works automatically over a long period.

This method injects chlorine or bromine gas only. 22.2.78 as 807523 (4pp1045).

HAGE/ ★ D15 63355B/35 ★DT 2807-524
Sterilising appts. for drinking, swimming pool water, etc. - generates chlorine or bromine gas in quantities as required, has two containers, one contg. acid and the other reactants
HAGER K 22.02.78-DT-807524
(23.08.79) C01b-07 C02b-01/36

A disinfecting gas for the sterilisation of water is obtd. by using two containers. One container is filled with an acid, is connected by a hose filled with fibre forming a prefilter, and ≥1 glass or ceramic filter to the second container. This contains the reaction chemicals, and the reaction only takes place when there is some vacuum in this second container.

Used for the disinfection of swimming pools, drinking water and water for general purposes. There is no adding of chemicals to the water so that the equilibrium of the salts dissolved in the water is not disturbed. Impure and substitute chemicals can be used and there is no need for daily attention, since the appts. work independently. 22.2.78 as 807524 (6pp1045).

ASEN/ ★ D15 63357B/35 ★DT 2807-526
Excrement disposal from medium-sized animal stalls - without pollution by extracting air and washing excrement with activated sludge
ASENDORF E 22.02.78-DT-807526
J01 (23.08.79) B01d-47/02

Whilst the air to be vented is being deodorised, the run-off from the floor of small to medium-sized animal rearing stalls, is converted into manure without environmental pollution. In the first of three operations, the air is extracted from the stall, and before going to atmos. it is washed with water contg. activated sludge in a reaction tube in an activating tank. The run-off from the stall is mixed in the reaction tube with the water contg. sludge and is fed with it back to the activating tank. After the activated sludge has been sepd. the clarified water is let off to the drains. Finally the stabilised excess sludge is stored for use as long-term fertiliser.

Used in undertakings with stalls contg. up to fifty animals, as are found on the outskirts of townships. The units can be installed compactly and work highly efficiently. 22.2.78 as 807526 (7pp1045).

CIBA ★ D15 63424B/35 ★DT 2906-334
Semipermeable membrane polymer esp. for reverse osmosis - contains mono- or difunctional cyclic beta-keto acid or ester gps. bonded via ester gp.
CIBA GEIGY AG 21.02.78-CH-001847
A88 J01 (A11 A14) (23.08.79) C08f-08/14

Thermoplastic polymers, for use as semi-permeable membranes, are prepd. by the esterificn. or alcoholysis of cellulose ester derivs. or free OH gp.-contg. cellulose ether derivs., PVA, its ester derivs., vinyl ester copolymers or (meth)acrylate copolymers, with mono- or difunctional cyclic β-ketoacids or their esters, esp. succinylosuccinic acid (I), or its ester derivs. Reaction takes place a the melt phase or in an inert solvent soln. of the polymer

The membranes are used for sepg. materials, esp. by everse osmosis. The modified polymers contain metal helate-forming gps. Chelating can achieve a stationary urface polarisation, increased retention of metal salts in vater purificn. and increased water-absorption. Chelation vith heavy metal salts inhibits biological degradation. 19.2.79 as 906334 (22pp200).

MITC ★ D15 63445B/35 ★DT 2906-998

Sepg. alcoholic beverage from fermentation liquor - with filter material contg. PVA-modified polyolefin flash fibres and auxiliary having zeta potential

MITSUI PETROCHEM IND KK 22.02.78-JA-018591

A88 J01 (A14 A17) (23.08.79) B01d-39/04

Filter material for a solids-liq. phase sepn. contains (A) modified olefin resin fibres consisting of components (a) fibres of polyethylene, C_2H_4 copolymers with <20 wt. % 3- and/or 4C α-olefin, polypropylene and/or C_3H_6 copolymers with <20 wt. % C_2H_4 and/or 4C α-olefin and (b) <5(0.5-4) wt. % w.r.t. (a), of PVA bonded to (a), and (B) <75(5-50) wt. %, w.r.t. (A) of a filter auxiliary which is insoluble or difficultly soluble in water and has a +ve zeta-potential. The fibres (a) are flash fibres, produced by releasing the pressure of a (co)polymer soln. or emulsion, kept at high temp. and pressure, in a lower-pressure zone.

The filter material is used esp. for sepg. alcoholic beverages from fermentation liquors, e.g. of sake, wine, whisky, sherry or beer, and can be used also in the food- and pharmaceutical industry. A clear, bright filtrate is obtd. at a high filtration rate and low filtration pressure, without health hazards and clogging of filters. 22.2.79 as 906998 (20pp200).

CLEV- ★ D15 63458B/35 ★FR 2409-236

Submerged oxygenation of pumped waste water with compressed gas - which is periodically used to backflush pumped water passages (SW 25.6.79)

CLEVEPAK CORP 22.11.77-JA-140554

(20.07.79) B01f-03/04 B01f-05/10 C02c-01/08 C02c-05/10

In a process for mixing a gas partic. air or O_2 into waste water (I), to be purified, (I) is pumped through a tubular mixing passage of which both inlet and outlet are submerged in a tank of (I). A branch entry to the mixing passage serves as an inlet for pressurised gas to mix into (I). (I) with entrained gas bubbles is discharged from the passage outlet into the tank.

To clean out the passage it is back-flushed with pressurised gas. First, the water pump is stopped. Then, without blocking the outlet of the passage, gas is blown through the branch entry into the passage to leave by way of the passage water inlet. This is achieved by piping the passage inlet to a point of lower pressure than that at the passage outlet.

The point of lower pressure is pref. the suction strainer of the pump used to pass water through the passage. The strainer is positioned higher in the tank than the passage outlet. Alternatively, the point of lower pressure can be a vent to atmos. fitted with an isolating valve.

Used for treatment of waste water to reduce organic pollution by oxygenation. The mixing passage can be periodically cleared of deposited debris without any dismantling of the installation. The clearing operation takes little time and needs no skilled attention. 21.11.78 as 032838 (15pp448)

BALA/ D15 63649A/36 #GB 1551-538

Appts. for automatic control of desalination of electrolyte solns. - in a DC electrodialysis machine, has control circuit connected to power source connected to dialysis machine electrodes

BALAVADZE E M 24.02.77-DT-708054 (24.02.77-GB-007893)

*J03 +R26 (30.08.79) *DT2708-054 B01d-13/02 +G05f-01/10*

A device for automatically controlling the desalination of electrolytic fluids in a direct-flow electrodialysis appts. comprises a current density pick-up connected to a controlled power source; a dilute flow rate sensor mounted on the electrolytic fluid supply or removal pipe; and a current intensity control unit whose differential inputs are electrically coupled to outputs of the current intensity pick-up and diluate flow rate sensor. The output of current intensity control unit is connected to a control circuit of the controlled power source.

The current density is prevented from being increased to a critical value, and accurate process conditions are obtd. 24.2.77. as 007893 (6pp976)

AKER- ★ D15 63493B/35 ★GB 2014-467

Water filter for removing microorganisms, e.g. marine algae - has means for feeding conc. sulphuric acid to the filter unit to remove collected microorganisms

AKERS MEK VERKSTED 06.03.78-NO-000770 (20.02.78-NO-000583)

H01 J01 (30.08.79) B01d-29/38 B01d-37

Filter for water carrying suspended microorganisms comprises $\geqslant 1$ filter unit contg. filter medium, water inlet(s) and outlet(s) and pressure drop controller. At least one filter unit has means for introduction of conc. H_2SO_4 and then a water wash. Pref. the system comprises $\geqslant 2$ units, one being used for filtering while the other is being cleaned. The conc. H_2SO_4 pref. contains a chromate and is stored in a tank which is filled as acid is removed.

The filter is used for removing e.g. algae from saline water to be injected into oil-bearing strata. The H_2SO_4 breaks down or dissolves the marine material. 15.2.79. as 005444 (5pp976)

TAKJ ★ D15 63616B/35 ★J5 4089-973

Solidifying sludge of high water content - by adding prim. treating material of filler and cement, then adding cement

TAISEI CONSTRUCTION KK 27.12.77-JA-159124

L02 Q31 Q42 (17.07.79) B01j-01 B65b-35/02 C04b-13 E02d-03/14

The method comprises mixing a prim. treating material consisting of filler (e.g. gypsum dihydrate) and small amt. of cement into the sludge to lower apparent water content, raise the viscosity of the sludge and prevent the sedimentation of the primarily treated sludge, and mixing a sec. treating material consisting of cement into the treated sludge, and thus solidifying the sludge.

The surface of sludge of high water content (500-700% or more of water) can be solidified, consequently >1m. of earth can be placed on the sludge to prevent the scattering of harmful substances in sludge. By sepg. the treatment into two-stages, the amt. of cement used can be reduced, lowering the treating cost. 27.12.77 as 159124 (4pp50).

NILE- ★ D15 63617B/35 ★J5 4089-975

Evaporator for fresh water prodn. from sea water - using six sets of aligned heat exchange plates with different gaskets

NILEX INGENIEUR AS 26.12.77-JA-157164

J01 Q78 (17.07.79) B01d-01 B01d-03 F28f-03

In an evaporator 6 sets of heat exchange plates (I)-(VI) are aligned in a housing. Plate (I), plates (II), (IV) and (VI) and plates (III) and (V) are fitted with different kinds of peripheral gaskets.

Pref. the plates (III) and (V) have a gasket at both sides and the lower end, and flow openings penetrated through the ends of the plates. 26.12.77 as 157164 (3pp15).

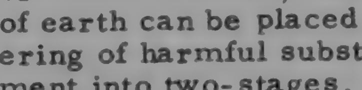
HITA ★ D15 63621B/35 ★J5 4089-982

Reverse permeation membrane - comprising polyamide having alkyl-sulphonamide side chains

HITACHI KK 27.12.77-JA-160117

A88 J01 (A23) (17.07.79) B01d-13

Reverse permeation membrane consists of polyamide having alkylsulphonamide gp. at the side chain consisting of repeat units of formula (I):



$$\left[\mathrm{NH{-}}\underset{\substack{|\\ (\mathrm{SO_2NRR'})_n}}{\mathrm{Ar}}\mathrm{{-}NHCO{-}Q{-}CO}\right] \quad \text{(I)}$$

(where Ar is divalent aromatic nucleus, Q is divalent aromatic or aliphatic radical, R and R' are H or lower alkyl gp. (H is substd. on only one of R and R'), n is 1 or 2, and SO_2NRR' gp. is joined with C atom of Ar not joined with NH_2 gp.).

Reverse permeation membrane consisting of polyamide having alkylsulphonamide gp. on the side chain is made by applying a soln. consisting of (a) polyamide having alkylsulphonamide gp., (b) a solvent for the polyamide (e.g. dimethylformamide) which is miscible with water and (c) inorganic salts (e.g. LiCl, LiBr, $LiNO_3$, $CaCl_2$, etc.) soluble in the solvents to a carrier, evaporating part of solvent from the surface of the coated layer, immersing it in water to form gelatinised film, and finally treating the film in hot water.

The resulting reverse permeation membrane exhibits very high resistance to operational pressure and can be used for long period for sepg. components of soln. of high osmotic pressure such as sea water. 27.12.77 as 160117 (10pp50).

SEKI ★ D15 63626B/35 ★J5 4089-987

Arsenic collecting material - obtd. by reducing keratin-contg. substance to cleave di:sulphide bond

SEKISUI CHEMI IND KK 27.12.77-JA-159179

A91 E32 J01 (17.07.79) B01d-15

An arsenic collecting material is obtd. by reducing a substance contg. keratin as a component (e.g. wool or feather) to cleave disulphide bond of keratin into thiol gp.

The material exhibits excellent absorbing power to arsenic in liq. (e.g. exhaust water from factory of mfg. organic medicines or of synthesizing arsenic agents or waste water from mining), and can be easily handled because it is obtd. in fibrous, granular or film form. Also as wool, feather, etc. can be used the material can be supplied at low cost. 27.12.77 as 159179 (5pp50).

MITP ★ D15 63829B/35 ★J5 4090-868

Purificn. of waste water contg. organic acids - by neutralising with base, concentrating and incinerating, the incineration energy being used for the concn. step

MITSUBISHI PETROCH KK 27.12.77-JA-158286

E17 Q73 (18.07.79) C02c-05 F23g-07/04

A waste water contg. an organic acid having ≤4C e.g. formic acid, acetic acid, acrylic acid, propionic acid and butyric acid, etc. is subjected to purificn. to achieve effective utilisation of thermal energy and to recover fused alkali metal components contained in combusted waste gas as neutralising agent for reuse under circulation.

Process comprises neutralising with an alkali, e.g. NaOH and Na_2CO_3 etc. to convert the organic acids into corresp. alkali metal salts; concentrating the water thus neutralised using the thermal energy generated in the subsequent concentrated waste water incinerating treatment; introducing the concentrated water into an incinerator wherein it is incinerated at 800-1000°C if necessary by the use of assisting fuel to generate the thermal energy to be used for the above concentrating treatment and to produce alkali metal carbonate to be used as the neutralising agent. 27.12.77 as 158286 (6pp34).

ITOY/ ★ D15 63872B/35 ★J5 4091-510

Enamel compsn. contg. low radioactive matter - used for enamelling iron tanks for drinking water

ITO Y 28.12.77-JA-160659

K08 L02 (20.07.79) C03c-03/30 C03c-05

An enamel compsn. contains 10-30 wt.% of low radioactive matter. It may be coated on the surface of base metallic material.

It is suitable as enamelling material of iron tank for drinking water. It is effective for the softening of hardness, sterilisation and improvement of taste of drinking water.

It is prepd. by blending 10-30 wt.% (on the final prod.) of pulverised monazite to a mixt. composed of 40-50 wt.% of fireproof material (e.g. silica stone, silica sand, feldspar), 20-30 wt.% of fusible material (e.g. borax, soda-ash, Chile salpetra), 5-15 wt.% of fluorspar and/or cryolite, 3-5 wt.% of SnO_2 and/or Sb_2O_3, 2-4 wt.% of $MgCO_3$ and/or $BaCO_3$, 1-2 wt.% of pigments and adhesive agent. Pulverised monazite has following properties: chem. compsn. Ce_2O_3 39-74%, ThO_2 1-18%, ZnO 1-7%, Y_2O_3 1-5%; hardness 5-5.5. Sp. gr. 4.9-5.3. Radioactivity 4429 ± 23Ci/min. 28.12.77 as 160659 (4pp170).

MITR ★ D15 63931B/35 ★J5 4091-955

Adsorptive treatment of waste water contg. oil etc. - with combined sterilisation and deodorisation process effected by UV-lamp and ozoniser

MITSUBISHI RAYON KK (HISA-) 28.12.77-JA-160539

A35 H05 J01 (20.07.79) C02b-01 C02c-05

Treatment of water, e.g. domestic waste water and industrial effluents from petroleum, high polymer, synthetic fibre, medical drug, steel making, machinery, etc. contg. solids, oil, emulsion, microorganisms, odorous substances, dyes, etc. comprises an adsorption process using varied shape composite adsorbent consisting of one or more of carbonaceous materials, e.g. activated carbon, coal, bone carbon, coke, etc. silica-alumina composites, e.g. silica gel, alumina gel, active alumina, zeolite, etc., the oxides, hydroxides or salts of Mg, Pb, Co, Ni and Cu, and carriers, e.g. styrene, α-methylstyrene, dichlorostyrene, methylmethacrylate, polyethylene, polypropylene, polyvinylchloride, polyurethane, polyurea, polycarbonate, etc. and a sterilisation and deodorisation process in which an ultra-violet ray lamp and an ozoniser are used.

The method exhibits good pollutants removal capability for various waste water or polluted water due to the synergism of adsorbent composite and ultra-violet ray lamp and ozoniser. 28.12.77 as 160539 (5pp117).

KURK ★ D15 63932B/35 ★J5 4091-961

Removing organics from waste water - using a zeolite catalyst obtd. by ion exchange of natural or synthetic zeolite and contact with aq. alkaline soln.

KURITA WATER IND KK 29.12.77-JA-158931

F06 (20.07.79) C02c-05/04

The waste water is contacted with a zeolite catalyst, obtd. by subjecting natural or synthetic zeolite to ion exchange (i.e. the alkali metal and alkaline earth metal ions of the zeolite are exchanged with Co and/or Ni ions on a predetermined standard basis) washing with water and contacting with an aq. alkaline soln. contg. chlorine, in the presence of sodium hypochlorite, chlorine gas, etc. at pH from >7.

The method is used for e.g. sewage, general industrial effluent, supernatant liquor from human waste digestion processes, dyeing of waste water, fibre processing waste, etc. 29.12.77 as 158931 (4pp117).

AGEN ★ D15 63933B/35 ★J5 4091-962

Cyanogen cpd. recovery from waste water - by regulating at mildly acidic pH, contacting with active carbon and washing active carbon with alkali

AGENCY OF IND SCI TECH 28.12.77-JA-159129

A41 E35 G06 (E16) (20.07.79) C01c-03/08 C02c-05/02

Cyanogen cpds., partic. stable cyanogen complexes or organic cyanogen cpds. are recovered from industrial effluents by regulating waste water to be treated to pH 2-4.5 (2.5-3.5) in advance by the addn. of an alkali or an acid and contacting with granular or powdered activated carbon by either contact filtration, fixed bed moving bed or fluidised bed methods, and washing the use activated carbon with an alkaline soln., e.g. an aq. soln. of NaOH etc. of pH >11 (>13.5) for regeneration.

Method effectively and economically removes or recovers cyanogen cpds. present in waste water discharged from photographic industry, pigment industry, organic chemicals industry, acrylonitrile mfg. industry, etc. The used activated carbon is also regenerated. 28.12.77 as 159129 (5pp117).

EBAI ★ D15 63934B/35 ★J5 4091-966

Waste treatment - by adding boric acid or a borate; and silicic acid or silicate before or after drying and heat melting mixt.

EBARA INFILCO KK 28.12.77-JA-159017

P35 (20.07.79) A62d-03 B01j-01

Treating wastes, e.g. sludge, industrial wastes, urban refuse, etc. is claimed in which 1-100 pts. wt. (as B_2O_3) of boric acid or a borate, e.g. ortho-boric acid, metaboric acid, tetra-boric acid, boron oxide, orthoborate, metaborate, tetraborate, diborate, pentaborate, hexaborate, borax, colemanite, etc. and 3-100 pts. wt. (as SiO_2) of silicic acid or a silicate, e.g. quartz sand, ground sand, river sand, silica sand, diatomaceous earth, sodium silicate, calcium silicate, magnesium silicate, glass powder, clay, etc. are added to 100 pts. wt. (as ash) of wastes, e.g. sludge, etc. before or after drying process or during drying process, and then the mixt. is subjected to a heat melting treatment at 700-1500°C.

Method is capable not only of lowering the m.pt. of wastes by the addn. of a very small amt. of additive but also of providing solidified wastes from which little or no harmful substances, e.g. heavy metals, etc. are eluted. 28.12.77 as 159017 (4pp117).

NICA ★ D15 64000B/35 ★J5 4092-572

Solids. sepn. from waste slurry - using di:cyano-di:amido-formaldehyde and chitosan flocculating agents

NIPPON CARBIDE KOGY KK 29.12.77-JA-158922

*A91 F09 J01 (21.07.79) B01d-21/**

Sepn. of solid from a waste slurry exhausted from pulp industries, protein industries or city effluent treatments, comprises adding a dicyano-diamido-formaldehyde system high mol. type aggregating agent to waste slurry, and centrifugally treating the resulting slurry to separate solid components. The improvement comprises adding the aggregating agent together with a chitosan system cationic high mol. type aggregating agent. The chitosan aggregating agent is chitosan salt of acetic acid, formic acid, or sulphamic acid, which is added in an amt. of 1.0-70 wt.% based on the total amt. of both aggregating agent.

In an example, a dicyandiamido-formaldehyde system high mol. type aggregating agent and a chitosan system cationic high mol. type aggregating agent were dissolved in water to obtain a soln. of 2% of the agent. The soln. was added to a waste sludge, and then centrifugally treated to separate solid components. 29.12.77 as 158922 (6pp51).

NICL- ★ D15 64001B/35 ★J5 4092-574

Gas-liquid contact appts. - where gas is formed into foam then upward flowing liquid is contacted with foam

NIPPON CLINKAGE KK 29.12.77-JA-159349

(21.07.79) B01d-03/30 B01d-53/18 B01f-03/04 C02c-01/12

A liquid is supplied through a liquid supply pipe in a liquid tank until a cover is submerged in the liquid. When a rotary shaft is driven from a motor to rotate an axial fan, a cylinder, agitating blades and the cover are rotated together, so that a gas is sucked in from a gas introducing pipe. The sucked gas is supplied as foams by means of blades of the fan and introduced downward of the cover by a pressure of a liquid sucked from an annular gap and by upper agitating blades.

The liquid introduced upwards by reversely feeding and agitating blades is powrfully agitated together with the foams to contact it with the foams sufficiently so as to absorb a part of foams in the liquids. The foams are agitated by lower blades to exhaust them from the lower end of the cover in the liquid tank.

The gas and the liquid may be powerfully and sufficiently agitated and contacted for a short time. 29.12.77 as 159349 (3pp35).

JAOR ★ D15 64007B/35 ★J5 4092-584

Regenerating double layer ion exchange resin bed - by passing regenerating agent up through resins packed in a tower to fluidise the resins

JAPAN ORGANO KK 29.12.77-JA-159085

J01 (21.07.79) B01j-01/09

A weakly electrolytic type anion or cation exchanging resin is packed in the upper portion of an ion exchanging tower and a highly electrolytic type anion or cation exchanging resin is packed in the lower portion thereof to obtain a double bed of the resins in the tower. A liquor to be treated is passed down through the tower and then the resins of the double bed are regenerated with a regenerating agent. The improvement comprises passing the regenerating agent up from the bottom of the resins, thereby fluidising the resins to expand the resulting fluidised bed by 20-120%.

In an example, 12 l. of a highly acidic cation exchanging resin was packed as a lower bed in a tower of 11.3cm. dia. and 3.5m. height. Then, 6 l. of a weakly acidic cation exchanging resin was packed as an upper bed in the tower. After passing down a liquor to be treated through the tower, a regenerating agent of 4% HCl was passed up from the bottom of the beds at 8m/h. for 20 mins. to fluidise the resins in the tower and regenerate them. 29.12.77 as 159085 (10pp51).

JAOR ★ D15 64008B/35 ★J5 4092-585

Regenerating double layer ion exchange resin beds - by passing regenerating agent up through anionic and cationic double layer beds to fluidise the resins

JAPAN ORGANO KK 29.12.77-JA-159086

J01 (21.07.79) B01j-01/04

A liquor to be treated is passed down through a cation exchanging tower equipped with an upper bed of a weakly acidic cation exchanging resin and a lower bed of a strongly acidic cation exchanging resin. The liquor exhausted from the cation exchanging tower is passed down through an anion exchanging tower equipped with an upper bed of a weakly basic anion exchanging resin and a lower bed of a strongly basic anion exchanging resin.

The double bed type cation exchanging tower and the double bed type anion exchanging tower are regenerated with a regenerating agent. The improvement comprises passing the regenerating agent from the bottom of the ion exchanging beds to fluidise the beds in both towers, and thereby expanding the volume of the beds by 20-120%. 29.12.77 as 159086 (13pp51).

NIPC D15 59408W/36 =J7 9021-840

Refining of cuprous cyanide from waste plating solns. - by heating with dilute sulphuric acid

NIPPON CHEM IND KK 22.05.73-JA-056331

*E32 M11 (02.08.79) *J50006-600 +C01c-03/08*

CuCN contg. Fe, Zn and Ni as impurities, obtd. from waste Cu cyanide complex-salt plating solns., is heated on $>$ 5% H_2SO_4 at $>$ 80°.

In an example, 450 g. 50% H_2SO_4 was added to 1 l. of waste $Na_2Cu(CN)_3$ plating soln. contg. 68.85 Cu, 82.4 g, total cyanogen, and 1.34 g. Fe, and the mixt. was heated and filtered to obtain 109 g. impure CuCN contg. 86.4 Cu, 1.2 Fe, 0.05 Zn, and 0.02% Ni. The impure CuCN was mixed with 500 g. 20% H_2SO_4, heated, and filtered to separate pptd. materials, which dried to obtain 99.6 g., white CuCN contg. $<$ 0.001% Fe, $<$ 0.001% Zn, and $<$0.001% Ni. 22.5.73 as 056331 C01c-3/08 (2.8.79) NIPPON CHEM IND KK (3pp)(J50006600)

MITN D15 21647X/12 =J7 9022-022

Formaldehyde-contg waste water - treatment with oxygen gas or hydrogen peroxide in presence of palladium catalyst

MITSUBISHI GAS CHEM IND 24.07.74-JA-084877

*E17 (03.08.79) *J51014-750 C02c-05/04*

A formaldehyde-contg. waste water is subjected to a treatment under an ordinary temp. and pressure without necessitating any special equipment, by contacting it with an O_2-contg. gas or H_2O_2 in the presence of a Pd catalyst so that the formaldehyde is decomposed and its B.O.D. and C.O.D is lowered. In a modification, the waste water thus treated may be further subjected to an activated sludge process. 24.7.74 as 084877 C02c-5/04 (3.8.79) MITSUBISHI GAS CHEM IND (5pp)(J51014750)

HASH/ ★ D15 64107B/35 ★J7 9022-024

Tert. treatment of polluted waste water - by activated sludge treatment with addn. of carbon source

HASHIMOTO S 12.02.74-JA-016276

(03.08.79) C02c-01/06

Waste water effuent is further subjected to an activated sludge treatment to remove a remaining portion of N and P components by adding a biologically easily decomposable carbon source so that the remaining soluble N and P components are taken into activated sludge, and further adding an Al or Fe salt, when the amt. of the P component is excess, to cause coagulation pptn. of the P component. 12.2.74 as 016276 C02c-1/06 (3.8.79) HASHIMOTO S; FUJITA M; FURUKAWA K (5pp34)(J50111863)

EBAI ★ D15 64108B/35 ★J7 9022-025

Treatment of organic waste liquor - using at least two aeration and settling regions

EBARA INFILCO KK 11.03.74-JA-027854

(03.08.79) C02c-01/06

In treating organic waste liquor with activated sludge by passing it in succession through $\geqslant$ 2 aeration and settling regions, improvement comprises recirculating the activated sludge from the initial settling vessel to the initial aeration vessel so that the BOD sludge load in the initial eration becomes ≥ 1.2 kg-BOD/kg. -MLSS. day, and ntroducing the liquor thus treated into the subsequent eration vessel to which activated sludge is recirculated from the settling vessel, so that bulking phenomena is effectively suppressed. 11.3.74 as 027854 C02c-1/06 (3.8.79) EBARA INFILCO KK (4pp34)(J50120164)

IDEK D15 23623A/13 = J7 9022-225

Copolymer membranes for oil-water sepn. - of (meth)acrylonitrile with (meth)acrylic acid or maleic acid or anhydride

IDEMITSU IND KK 17.09.76-JA-110762

*A88 J01 (A14) (04.08.79) *DT2741-486 C08f-02 C08f-220/46*

Membranes for oil-water sepn. produced from random copolymers of (A) 20-90 wt. % (meth)acrylonitrile and (B) 80-10% (meth)acrylic acid and/or maleic acid or anhydride.

Pref. copolymers are made from 20-80 % (A), and 80-20% (B) which consists of acrylic and/or methacrylic acid or of maleic acid and/or anhydride. Up to 40 wt.% of (A) may be replaced by 1-4C alkyl (meth)acrylate, (meth)acrylamide, styrene, butadiene and/or isoprene to improve the physical properties.

The membranes are used for removal of oil from water effluent, sepn. of water-hydrocarbon mixts. in the chemical industry, recovery of solvents, etc. The copolymers are readily converted to membranes in the form of films, hollow fibres, etc. which have excellent separation ability allowing passage of water while retaining oil. No energy is required for sepn. and oil content of effluent water is reduced to a few ppm. 17.9.76 as 110762 C08f-220/46, 2/00 (4.8.79) IDEMITSU INDUSTRIES KK (5pp)(J53036590)

AGEN D15 68487V/39 = J7 9022-430

Heavy metals from waste water removal - using modified wool or silk fibres

AGENCY OF IND SCI TECH 09.06.72-JA-056880

*A97 F06 J01 (07.08.79) *J49016-675 +B01d-15 C02c-05/02*

Heavy metals are removed from a soln. by treatment with animal fibres modified by reacting with ≥1 or 2,4-dinitro-halobenzene, acrylonitrile, methacrylonitrile, HCHO, glyoxal, hexamethylenetetramine, methylolurea, methylolmelamine, methylolphenol, and isocyanate. Wool and silks may be used as the animal fibres.

In an example, cleaned wool (3 g) was reacted with an aq soln. contg. 2,4-dinitrochlorobenzene (1.5 g) $NaHCO_3$ (2.0 g), and water (120 ml) at 60° for 3 hr., washed with dil. HCl, and then with water. An aq. soln. (50 ml) contg. 1.0 ppm Hg^{2+} was treated with 0.30 g of the treated wool. The residual Hg^{2+} content was 48 ppb, as compared with 156 by using untreated wool. 9.6.72 as 056880 B01d-15/00, C02c-5/02 (7.8.79) AGENCY OF IND SCI TECH (7pp) (J49016675)

DEGS D15 74359W/45 = J7 9022-697

Detoxifying formaldehyde-contg. waste waters - by treatment with hydrogen peroxide in presence of alkalis at room temp.

DEUTSCHE GOLD & SILBER 22.04.74-FR-013932

*A35 E17 (A21) (08.08.79) *DT2511-432 C02c-05/04*

HCHO-contg. waste waters are detoxified by treatment with H_2O_2, in the presence of alkalis, pref. NaOH, at starting temps. of 10-35°C. Waste waters contg. 0.01-10 wt.% HCHO, e.g. from phenoplast and aminoplast mfr. HCHO-removal is quick, e.g. takes 3-30 min., and is quantitative. 22.4.75 as 048261 (clg.22.4.74-FR-013932) C02c-5/04 (8.8.79) DEUTSCHE GOLD & SILBER (6pp) (J51002256)

MINE- D15 11865Y/07 = J7 9022-698

Water purificn. by treating with surface activated metal - which converts (per)oxide added to the water into nascent oxygen

MINERUBA KK 23.06.75-JA-075675

*(08.08.79) *J52000-058 C02c-05/04*

A polluted water is purified by immersing a treated metal plate (such as Al plate) in it. The plate is prepd. by prior cleaning of its surfaces with an acid or an alkali followed by immersing in an aq. soln. (0.001- to 5 wt.%) of $Hg(CH_3\text{-}COO)_2$ or $HgCl_2$ and washing with water.

The metal (Al) plate treated is instantaneously immersed in the polluted water and carries out the reductive action without being allowed to stand in the open air. By this treatment, the Al plate is instantaneously amalgamated and hydrolysed in the water to give very active (reductive) surfaces.

This very active Al plate generates nascent oxygen in the polluted water on reacting with the (per)oxide contained therein. The Al plate used is reproduced for reuse and used for a long period. 23.6.75 as 075675 C02c-5/04 (8.8.79) MINERUBA KK (3pp34)(J52000058)

IMAM/ D15 76631Y/43 = J7 9022-699

Waste organic liquor purificn. - by contacting with ferric oxide and aluminium silicate calcined media respectively

IMAMURA T 12.03.76-JA-026084

*(08.08.79) *J52109-480 C02c-05/04 +C02c-01/02*

Treatment of waste organic liquor discharged from food industries or pig raising industries comprises contacting with bacteria medium or a synthetic calcined medium (1) consisting of ferric oxide as a main component to activate it, and contacting the activated liquor with a synthetic calcined medium (2) consisting of aluminium silicate as a main component.

The medium (1) is obtd. by mixing clay contg. Fe_2O_3 as a main component with clay contg. $Al_2O_3.SiO_2$ as a main component and calcining the mixt. at >1000°C. The medium (2) is obtd. by calcining clay contg. $Al_2O_3.SiO_2$ as a main component at 800-1000°C. 12.3.76 as 026084 C02c-5/04, 1/02 (8.8.79) IMAMURA T(4pp)(J52109480)

KAWA/ D15 11358A/06 = J7 9022-700

Treating plating waste water contg. cyanide and metals - by treating with low grade coal

KAWAZOE A 00.00.76-JA-117606 (10.08.71-JA-060430)

*M11 (08.08.79) *J52155-864 C02c-05/02*

Plating waste water contg. cyanide, Cr, Sn, Zn, and Cd etc. is purified by contacting it with a low grade coal to neutralise it and to remove cyanide and other harmful metal components. Contact is effected by immersion (esp. where the coal is pulverised) or by spraying (esp. where the coal is in lump form).

A surfactant may be used in an amt. of 0.1-3.0% based on the water in combination with the coal to accelerate permeation of the water into the coal, so that its treatment time is shortened to a large extent. The neutralisation of the water is completed only by contacting it with the coal when its pH value is not very low, but it is pref. to neutralise it with lime prior to discharge into rivers when its pH value is very low.

The low grade coal thus treated has increased calorific value (from 2,000-2,500 KCal to 3,000-3,500 KCal) and increased absorbtion area. Fe and S content are decreased (by about 30%). It is suitable for use as an adsorber and a filter material. 10.8.71 as 117606/76 Div. ex 060430/71 C02c-5/02 (8.8.79) KAWAZOE A (3pp) (J52155864)

MITU D15 78460X/42 = J7 9022-702

Active sludge treating device - comprising active carbon bed placed between sludge blanket and flow constriction zone

MITSUBISHI CHEM IND KK 28.02.75-JA-024800

*(08.08.79) *J51099-861 +C02c-01/06 C02c-05/02*

An active carbon bed is disposed on a support to remove suspended and organic substances remaining in a cleaning zone existing an upper section of a settler and waste water under treatment is flowed upward through the bed so as to cross the face of the bed.

The bed must be positioned in a section of zone, where the flow rate of the waste water is slower, and is pref. placed ≥ 30 mm above the height of a sludge blanket and ≥ 10 mm below a narrowed flow of the water. By the synergism of the active carbon bed, substances which can not be pptd. in the settler and with active sludges can be removed 28.2.75 as 024800 C02c-1/06, 5/02 (8.8.79) MITSUBISHI CHEM IND KK (5pp)(J51099861)

NITY D15 79695X/43 = J7 9022-707

Regeneration and recovery of exhausted active carbon - from activated sludge effluent-treating process by heating sludge under specific conditions NL061076)

NITTETSU CHEM IND KK 04.04.75-JA-040417

*(08.08.79) *DT2614-021 C02c-01/06 C02c-03*

In an activated sludge process for effluent treatment, the exhausted active C used to adsorb impurities is regenerated

nd recovered by dewatering the sludge contg. the active C,
onverting the dewatered sludge to a corresp. moist, pow-
iery form, actively dispersing and swirling the sludge pow
-der into a regenerating furnace, using gases produced by
n auxiliary burner, at high spped under such conditions as
o selectively decompose and gasify the sludge and the org.
cpds. adsorbed onto the active C while the latter is regen-
erated, recovered and recycled to the aeration plant.

The process, by controlling the regeneration conditions
s more economic as the sludge and impurities are remov
-ed without losing too much active C. 4.4.75 as 040417
C02c-1/06, 3/00(8.8.79) NITTETU CHEM ENG KK (4pp)

MOTE= ★ D15 64161B/35 ★NL 7809-829

Graft copolymers of cellulose with vinyl pyridine(s) - made by free radical polymerisation in aq. emulsion made using partially saponified PVA as emulsifying agent

MOSC TEXTILE INST 14.02.78-SU-578783

A11 (A14 A91 D17) (16.08.79) B01f-17 C08f-02/24 C08f-251/02

Graft copolymer of cellulose with vinylpyridines are made by graft polymerisation of cellulose and vinylpyridines using free radical catalysts. The reaction is carried out in aq. emulsion made using partially saponified polyvinyl acetate contg. 5-15 wt. % acetate gps., as emulsifying ag agent. The cellulose raw material is e.g. viscose staple fibres, cotton, wood pulp, etc. The free radical catalyst is pref. H_2O_2-Fe^{2+}. Graft polymerisation is carriued out e.g. for 1-1.5 hrs. at 60-80°C.

The process is simple to carry out and gives high monomer conversions (e.g. up to 78%) without forming homopolymers of the monomer. The emulsifying agents are cheap and easy to make on an industrial scale. The graft copolymer prods. are useful ion exchange materials which can be used e.g. for removal of heavy metal ions from effluent waters, sugar syrups, etc. 28.9.78 as 009829 (8pp513)

MOTE= ★ D15 64162B/35 ★NL 7810-636

Graft copolymers of cellulose - with mono:vinyl monomers contg. ionic gps. and modified with di:vinylbenzene, useful as ion exchange materials

MOSC TEXTILE INST 14.02.78-SU-581701

A11 E14 (A14 A91 D17) (16.08.79) C08f-251/02

Modified graft copolymer of cellulose and monovinyl monomers contg. ionic gps. or non-ionic gps. which can be converted into ionic gps., are made by graft polymerising the cellulose and the monovinyl monomer (I) in the presence of 1-5 mol. % (on I) of divinylbenzene (II) as modifier in the presence of a free radical catalyst.

The prods. are useful ion exchange materials having a high exchange capacity and an optimum degree of swelling They are technically easy to produce and can be made in a wide variety of forms, such as powders, fibres, non-woven fabrics, woven textile materials, etc. The prods. are useful in ion exchange units for the treatment of water, sugar syrups, etc., and in filter units for breathing appts. 25.10.78 as 010636 (19pp513)

LICH/ ★ D15 B/35 ★OE 7500-425

Processing rubbish and sewage sludge mixtures

LICHTBLAU F 22.01.75-OE-000452

(15.08.79) C05f-09

DEUT/ ★ D15 B/35 ★OE 7706-632

Well ground water aeration device

DEUTSCHMANN E 15.09.77-OE-006632

(15.08.79) C02b-01

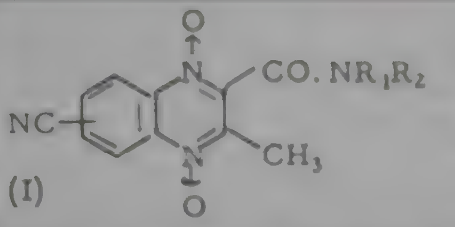
PFIZ D15 47688W/29 =SU -633-478

Antibacterial cyano-2-aminocarbonyl quinoxaline 1,4-dioxides - from 5-cyanobenzofurazan-1-oxide by reacting with acetoacetamides

PFIZER INC 07.01.74-US-431170

*B02 C02 (18.11.78) *BE-824-065 A61k-31/49 C07d-241/40*

Quinoxalines of formula (I) and their acid addn. salts are new: (CN is at 6 or 7 postn.; R_1 and R_2 = H, 1-4C alkyl, 2-hydroxyethyl, 3-hydroxy-propyl, $CH_2CH_2NR_3R_4$ or $CH_2CH_2CH_2NR_3R_4$; R_3 and R_4 are 1-3C alkyl). (I) are antibacterial and animal-growth promoters. They may be used in water treatment; preserve paints and woods; for local application or therapeutically by oral or parenteral administration. As animal feed additives concn. in the feed is 1-100, pref. 5-50 ppm and accelerates growth and improves feed efficiency. Specif. claimed is (I) where (a) R_1=R_2=methyl; (b) R_1=H, and R =H, methyl, ethyl or 2-(N,N-dimethylamino)ethyl. Macfarland J.W., Bul. 42/15.11.78 6.1.75 as 097436 (4pp)



(I)

TINI= ★ D15 64227B/35 ★SU -633-548

Laterally-oscillating trough - with multiple flow channels through which flows of colloidal or suspended particles are coagulated and removed

TIN IND RES INST 18.09.74-SU-110581 (18.09.74-SU-060368)

J01 (26.11.78) B01d-21 C02b-01/78

Method for sepg. colloidal solns. and suspensions, by treatment with coagulants and flocculants while flowing along, as used during the purificn. of water, and the clarification and enrichment of slurries. The flow is divided and subsequently treated mechanically. The effect of sepg. the suspended particles is increased, by enlarging and concentrating them; this is done by making the height and weight ratios of the divided flows within the limits 1:5 -1:20. To their parallel surfaces a transverse periodic oscillatory motuon is imparted, having a frequency amplitude within the limits of 1/3 to 1/5 of the width of the divided flows.

Kovrizhnykh Yu.P., Kogan B.I., Gutman A.I., Bul. 43/25.11.78 18.9.74 as 060368 (3pp29)

SHYD= ★ D15 64229B/35 ★SU -633-550

Continuously-operating sand filter for water purification - has water inlet and sand inlet with two coaxial truncated cones which direct sand flow during process

SOUTH HYDROTECH MEL 01.09.76-SU-397717

(26.11.78) B01d-23/20

Continuously-operating filter for purifying water and removing mechanical impurities, includes a body contg. filtering material, water inlet and outlet pipes, drainage head and a charging device. The degree of purificn. of the water is increased, as a result of preventing clogging up of the drainage head by the impurities, by making the loading device as hollow, truncated, coaxially-positioned cones. The lower one has its smaller dia. pushed up into the larger base of the upper one, and its larger dia. placed coaxially over the top of the drainage head.

Fabrikov A.I., Sukachev N.V., Bul. 43/25.11.78 1.9.76 as 397717 (3pp29)

TECH= ★ D15 64266B/35 ★SU -633-587

Drainage water neutralisation control at heat and power station - involves varying acidic or alkaline reagent flow to mixer according to the reaction mix pH value

TECH RES INST 03.05.76-SU-354932

R26 (25.11.78) B01j-01 G05d-27

Known method for regulating periodic neutralisation of chemical shop drainage water at combined heat and power stations involves feeding acidic and alkaline water into a mixer as a function of the level and pH-value of the reaction mix. To increase the delivery rate, the pH of the reaction mix in the mixer is found from the flows and the flow of the acidic or alkaline reagent is varied accordingly. Overconsumption of reagents is avoided by monitored mixing.

Efimov G.V., Bul. 43/25.11.78 3.5.76 as 354932 (3pp 840)

PUNT= ★ D15 64276B/35 ★SU -633-597

Microbiological maceration of bast fibres recycle water purificn. - includes specified electrolytic treatment to increase pectin decomposing activity of microorganisms, useful in textile industry

PUNTUKAS CONS BUR 10.11.75-SU-192417

F01 (26.11.78) B01k-01

Recycle water from micro-biological maceration of bast, e.g. flax stalks, is treated electrolytically at a current density of 0.1-3.0 A/dm^2.

Aluminium electrodes are pref. used. By this method the consumption of water is reduced by 30%. and the maceration is accelerated by 45% (the time is reduced to 48-50 h.)

The recycled waters (water squeezed out from the stalks, washing water) contains numerous pectin-decomposing microorganisms so that they decompose the bast must more effeciently than pure water, provided that the recycled waters are freed from contaminations; this is expediently done by electrolysis.

Budris R.P.P., Abdomaitis A.L., Milchene Yu.L., et al
Bul. 43/25.11.78 10.11.75 as 192417 (3pp70)

LECE ★ D15 64346B/35 ★SU-633-805
Sulphur cpd. removal from waste water - using carbonised solid waste from vanillin prodn. as high capacity sorbent
LENINGRAD CELL-PAPER INS 02.09.76-SU-399408
(26.11.78) C01b-31/16 C02b-01/14

Adsorbent for the removal of S-cpds. from waste water is based on solid waste from vanillin prodn. (using sulphite-cellulose concentrate) to increase adsorption capacity and water resistance.

The dried residue (contg. 50-53% desulphonated lignin, 45-46% minerals, and 1-5% benzene, resins etc.) is anaerobically carbonised at 500-600°C. The prod. ash-content may be lowered by acid or HCl extn. before or after carbonization.

Vasileva T.M., Vlasova K.I., Puzyrev S.A., Bul. 43/25.11.78 2.9.76 as 399408 (2pp114)

ACAD= ★ D15 64356B/35 ★SU-633-815
Effluent cleaning by activated sludge - has pre-aeration carried out on 5-50 per cent of sludge after secondary settling
ACAD COMMUNAL WATER 04.06.74-SU-029818
(26.11.78) C02c-01/02 C02c-03

The process comprises pre-aeration of a mixt. of the initial liquid and surplus activated sludge, settling, biochemical cleaning, secondary settling, and mechanical drying of the deposit. To improve performance pre-aeration is carried out on 5-50% of the sludge after secondary settlings, the sludge removed after primary settling being used at the biochemical cleaning stage, while the deposit and the settled surplus sludge from the primary settlers undergo mechanical drying.

Turovskii I.S., Agranonik R.Ya., Dorofeev E.E. et al
Bul. 43/25.11.78 4.6.76 as 029818 (2pp132)

REPU= ★ D15 64357B/35 ★SU-633-816
Mechanical horizontal water aerator - has longitudinal channels with toothed edge fitted at disc periphery, whose concave side faces shaft rotation direction
REPUBLIC DES-CONS 27.05.77-SU-513601
(26.11.78) B01f-03/04 C02c-01/10

The aerator comprises a shaft with a drive having disc-type elements over its entire length. To increase efficiency, with simultaneous decrease in energy consumption, longitudinal channels with a toothed edge are fitted at the disc periphery, their concave side facing the direction of rotation of the shaft.

On half-immersion in the aeration tank, the channel exposed to the atmosphere drives the air into the liquid, which in turn is distributed by the toothed edge to intensify mixing. The breakdown into water droplets is supplemented by satn. with oxygen via the discs carrying a readily-contacted thin film of water. The system gives 7.75 mg/l oxygen satn. concn. in 10 mins., at greatly reduced energy consumption.

Voronov Yu.V., Yushkevich F.N., Bul. 43/25.11.78 27.5.77 as 513601 (2pp132)

AFAN/ ★ D15 64358B/35 ★SU-633-817
Perforated plate for effluent cleaning - has sectional filter cloth with elastic removal pipes for controlled discharge of impurities
AFANASIKOV YU I 26.03.73-SU-899650
(26.11.78) C02c-01/22

The plate comprises a conveyor with a filter cloth, and a regenerator for this latter. To reduce metalwork, and increase reliability and efficiency the cloth is made in sections incorporating elastic cylindrical pipes abutting each other along their generating lines and each equipped with a channel.

Afanasikov Yu.I., Maslov N.N., Bul. 43/25.11.78 26.3.73 as 899650 (4pp132)

COMM= ★ D15 64359B/35 ★SU-633-818
Primary cleaner for liquid effluent - has sectional perforated plate and rake with bottom ends linked to drawing mechanism by rope
COMMUNL WATER MAINS 27.04.76-SU-354432
(26.11.78) C02c-01/22

The cleaner comprises a perforated plate below a set of guides carrying a carriage linked to a rake, a drawing mechanism, a tilting plate, an ejector, and a rope. To increase service life and facilitate repairs, the perforated plate is made sectional, and the bottom ends of the rake are linked by a rope to the drawing mechanism, while the ratio of the distance between the perforated plate and the guides and the height of the piping housing the trap, is 1:2.6.

Povetkin V.I., Pashentsev V I., Svodtsev V.I. et al.
Bul. 43/25.11.78 27.4.76 as 354432 (3pp132)

NONF= ★ D15 64361B/35 ★SU-633-820
Cyano-contg. effluent purification control system - has gas phase prussic acid concn. meters before and after absorber along with adders
NONFER MET ORE ENRI 07.04.77-SU-471049
R21 R26 (25.11.78) G02c-05/02 G05d-27

Prior control system for purificn. of cyano-contg. effluents includes cyanide concentrate meters before and after the absorber along with adders in order to allow for variation of the toxic component content in the gaseous phase. Purificn. is improved while saving absorbent. The system is useful in the metallurgical, chemical and other industries.

Ozerov A.I., Kratsberg E.P., Bairamov A.A., Bul. 43/25.11.78 7.4.77 as 471049 (3pp840)

POST/ D15 90506Y/51 =SU-633-821
Removing mercury from aq. solns. - by sorption on a basic anionic exchange resin in presence of active chlorine
POSTOLOV L E 01.06.76-SU-368661
*E36 J01 (26.11.78) *DT2724-706 C02c-05/08 +C01g-13/04*

Hg is removed from industrial solns. esp. liquors from brine electrolysers using Hg cathodes, by sorption onto an anionite comprising an alkylated copolymer of 2-methyl-5-vinyl-pyridine and divinyl benzene, in the presence of Cl_2 using the stabilised method.

The degree of Hg removal is improved. The amt. of Cl_2 present is pref. 20-40 mg/l, calculated as Cl_2. A prefd. process is carried out by countercurrent contact.

Postolov L.E., Skripnik V.A., Romashev A.S., et al
Bul. 43/25.11.78 1.6.76 as 368661 (2pp314)

POPO/ ★ D15 64362B/35 ★SU-633-822
Treatment of aq. waste from viscose fibre prodn. - by neutralisation in a cell with a carbonised fabric-filled cathode
POPOV V V 26.04.76-SU-351642
A11 F01 (26.11.78) C02c-05/12

Aq. waste streams from viscose fibre prodn. are purified by treatment with an alkali followed by neutralisation by electrolysing in a cell with a graphite anode and a cathode which is made from a carbonised fabric.

Use of this cathode accelerates the neutralisation process.

Popov V.V., Ioffe A.Z., Fridman L.I. et al. Bul. 43/25.11.78 26.4.76 as 351642 (2pp314)

KECH= ★ D15 64409B/35 ★SU-633-872
Water-soluble polyelectrolyte for use as a flocculant - is used to purify aq. phenol waste and is prepd. by chloromethylation and amination of coumarone indene resin
KEMER CHEM IND RES (KECO=) 15.03.77-SU-463791
A91 (26.11.78) C08f-08 C08g-14

A water soluble polyelectrolyte used as a flocculant is obtd. by chloromethylation and amination of a copolymer. A prod. useful for purifying phenol-contg. aq. waste from the coal tar industry is obtd. if the copolymer is a cumarone-indene resin.

Trushin B.N., Kryuchkov V V, Shtein A.L., Bul. 43/25.11.78 15.3.77 as 463791 (2pp147)

LFA ★ D15 64574B/35 ★US 4164-317
ludge centrifuge with automatic sludge discharge - has piston alve movable to intermittently open and close sludge outlets
DE LAVAL SEPARATOR 24.04.78-US-899212
J01 P41 (14.08.79) B04b-01/18

he centrifuge comprises a centrifugal rotor with a piston alve movable axially of the rotor to effect intermittent pening and closing of sludge outlets in the periphery of he rotor. The piston valve normally closes the sludge utlets and moves axially to open them when operating iq. is drained through drain openings at the periphery of closing chamber adjacent the valve, the drain openings eing normally closed by a main slide in an opening chamber.

Operating liq. fed to the opening chamber first moves he main slide axially to open the drain openings, thereby ffecting opening of the sludge outlets. It then overflows nto a third chamber to actuate a second slide and open a rain passage leading from the opening chamber into a hird chamber, whereupon the main slide moves to re-close the drain openings in the closing chamber.

The main slide responds promptly to the supply of operating liq. to the opening chamber and the duration of ach open period of the sludge outlets can be accurately controlled. 24.4.78 as 899212 (7pp67)

ARBE D15 38546A/22 =US 4164-469
Treating waste water to remove phenol - by passing through lignite coke which is then at least partly combusted
ARBED SA 21.01.77-LU-076626
*E14 (14.08.79) *BE-862-990 C02c-05/02*

Phenols are removed from waste water by passing the water counterflow through a brown-coal coke advanced by a screw conveyor. The phenolated brown-coal coke is then mixed with metallurgical coking coal, charged into a coking furnace, and the coke used in metallurgical process. The screw conveyor may be inclined with the waste water introduced near the top.

Phenols are removed in one-step to leave the water with an environmentally acceptable phenol content. 23.1.78 as 871474 (4pp1376)

GLOB- D15 55444A/31 #US 4164-470
Waste water treatment - with mining chamber for chemicals injection, tubular worm conveyor clarifiers and filer (NL 26.7.78
GLOBAL POLLUTION CO 24.01.77-GB-002759 (09.01.78-US-867840)
*(14.08.79) *DT2802-960 +B01d-17*

Solids are deposited out from liq. (e.g. sewage) in appts. which has a device to induce formation of solids and $\geqslant 1$ tube clarifier downstream of the device. The clarifier has a casing in which an auger is rotatably mounted, the casing also having liq. and solids outlets. The auger has spaced perforated baffles mounted on a shaft along with a concentric perforated auger flight surrounding the baffles.

The angle of inclination of the baffles to the shaft can pref. be adjusted. 9.1.78 as 867840(8pp1376)

FARH D15 90047Y/51 =US 4164-482
Absorption agent contg. a polymer and a mineral - useful for purificn. of polluted water
HOECHST AG 15.06.76-DT-626732
*A97 (14.08.79) *BE-855-716 +B01j-21/18 B01j-29/06 B01j-31/02*

An absorbent for water purification consists of an organic polymer and inorganic absorbing matter, such that the two components are interlinked epitactically.

Pref. the organic polymer contains 99.5-85 wt.% of ethylene structural units and 0.5-15 wt.% of the structural units of bis-alkali metal methacrylamide N-sulphonate. The inorganic absorbing matter is pref. aluminium oxide, silica gel, a zeolite, active carbon, bleaching earth, bentonite, fuller's earth, activated bauxite or activated kieselguhr. Prepn. of the absorbent is by stirring the inorganic matter into an aq. dispersion of the organic polymer and bringing about coagulation of the polymer by adding a mineral acid to pH 1-2 while further stirring.

The absorbent prepd. has a lower chlorine consumption w.r.t. active carbon alone, and good absorbing properties w.r.t. different classes of substances. 13.6.77 as 806273 (3pp931)

AMCY D15 59073A/33 =US 4164-521
Poly:anionic and poly:cationic polymer mixt. - used to inhibit magnesium boiler scale formation in water desalination plant (NL 9.8.78)
AMERICAN CYANAMID CO 07.02.77-US-766329
*A91 (A14 A26) (14.08.79) *DT2804-434 +C08l-33/02*

Mg scale inhibiting compsn. comprises (a) a polyanionic polymer (II) contg. $\geqslant 50$ mole % repeating units derived from an acrylic acid and any balance of comonomer units, the acid units being in the form of free acid radicals, ammonium slats and/or alkali metal salts; and (b) a polycationic polymer (I).

(I) comprises the reaction prod. of (i) dimethylamine-polyamine-epichlorohydrin where the amt. of polyamine is 0-15 mole % of the total amine content and the amt. of epichlorohydrin is from at least the molar equiv. of the total amine content up to the full functional equiv. of the amine content.

(II) has mol. wt. $500\text{-}5\times10^4$ and (I) has mol. wt. $1500\text{-}5\times10^5$ molar ratio (I):(II) based on the ave. mol. wt. of the repeating units is 2:1 to 25:1 (2:1 to 4:1). Compsn. is used to inhibit $Mg(OH)_2$ scale formation in evaporative desalination units. 7.2.77 as 766329(5pp936)

MITR D15 36891A/21 =US 4164-612
Water-soluble cationic vinyl polymers - as flocculants and clarifying agents still contg. salts, for organic sludges and waters
MITSUBISHI RAYON KK (NITT MITR) 04.11.76-JA-131686
*A14 (A91) (14.08.79) *DT2749-295 C08f-02 +C08f-18/22 C08f-126/06*

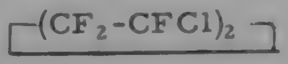
Prodn. of a cationic polymer comprises aq. soln. polymerisation of vinyl monomer of formula $CH_2{=}C(R_1)\text{-}COOR_2\overset{+}{N}R_3R_4R_5.\overset{-}{X}$ (I) opt. with $\leqslant 25$ wt.% based on monomer wt., of other polymerisable vinyl monomers using a polymerisation initiator in the presence of 7-18 wt.%, based on monomer and water, of water and 10-40 wt.%, based on polymerisation system, of a powdery alkali(ne earth) metal salt or ammonium salt dispersed in the polymerisation system.

In (I) R_1 is H or CH_3; R_2 is $\text{-}CH_2CH_2\text{-}$ or $\text{-}CH_2CH(OH)CH_2\text{-}$; $R_{3\text{-}4}$ are CH_3 or C_2H_5; R_5 is C_nH_{2n+1} (where n is 0-4), $\text{-}CH_2C_6H_5$ or CH_2COOH; and X is Cl, CH_3SO_4, CH_3SO_3 or $\frac{1}{2}SO_4$.

The polymer is water sol. and is in easily grindable glassy state and is a flocculant. 31.10.77 as 847025(5pp982)

HORI- D15 44333A/25 =US 4164-653
Solvents for extracting oil from water - comprising chloro-tri:fluoroethylene oligomers, esp. for analytical use
HORIBA LTD (DAIK) 08.12.76-JA-148085
*A97 H03 J04 +R16 R19 (A18) (14.08.79) *DT2754-293 +G01n-01/16*

In extracting and measuring the concn. of an oil fraction in water by extracting the oil from a water sample with a solvent and analysing the concn. of oil in the solvent using an IR analyser, the improvement comprises using, as solvent to extract the oil, a low polymer of chlorotrifluoroethylene which is pref. of formula $X.(CF_2.CFCl)_n.X$ (I) or (II)



$(CF_2\text{-}CFCl)_2$

(where X is Cl or F and n is 2 or 3).

The solvent can be used in a closed atmospheric condition such as in a ship. 29.11.77 as 855906(8pp982)

See Also

D12 SU 633448 D16 J5 4092683 D16 J5 4092684
D22 US 4164574 D23 SU 633819

D16 : FERMENTATION INDUSTRY

NORD- ★ D16 63165B/35 ★BE -874-415
Beer of low alcohol content - obtd. by fermentation under carbon di:oxide atmos. and in the absence of oxygen
NORDBRAU INGOLSTADT 24.07.78-DT-832487 (17.03.78-DT-811721)
(23.08.79) C12c

A wort obtd. from malt is fermented under an atmos. of pure CO_2 in a vat from which O_2 has been completely excluded before introduction of the wort, until the desired alcoholic content is obtd.

The fermentation is pref. effected under a pressure of 0.1-3 bars, and the wort is pref. satd. with CO_2 at the fermentation temp. before addn. to the CO_2-filled vat. Pref. 0.25-0.351 of a thick paste of beer yeast is mixed with 1001 of the wort, and the fermentation is pref. at 4-7 °C.

Despite the low alcohol content, the beer obtd. has the smell, taste, colour, and foaming propensity of a classical cal beer. The process is economical because it does not require a supplementary operation to remove a fraction of the alcohol. 23.2.79 as 874415 (8pp1331)

PURD ★ D16 63170B/35 ★BE -874-429
Dialysis compsn. for blood purification in artificial kidney - contains a surface adsorption agent e.g. carbon enzyme urease, suspension agent and zeolite-type cation exchanger
PURDUE RESEARCH FOUNDATI 27.02.78-US-881684
A97 J01 P34 (27.08.79) A61m B01d

Dialysis compsn. for the adsorption of urenic substances in an artificial kidney contains a cation exchanger suspended in a suspension medium. Pref. the compsn. contains (a) a surface adsorption agent for uremic substances, such as carbon or an ion exchange resin (b) an enzyme, pref. urease, to catalyse the degradation of urea (c) a suspension agent, such as methylcellulose, hydroxyethyl starch or dextran and (d) a cation exchanger, e.g. zeolite type, suspended in the suspension agent.

Dialysis compsn. is used, in an artificial kidney to purify blood by removal of uremic substances, allows simpler appts., gives improved purification of blood and does not necessitate rapid flow of the dialysis soln. by the membrane. 26.2.79 as 874429 (25pp395)

NEST D16 88588Y/50 =DS 2724-992
Orange pigment from Monascus species prepn. - by two stage cultivation in growth stimulating and pigment stimulating media
SOC PROD NESTLE SA 02.06.76-CH-006919
*E24 (D13) (23.08.79) *DT2724-992 C12d-13/02*

Prepn. of pigment from Monascus species comprises propagation of these microorganisms in an aq. medium contg. the usual nutrients, at pH 4-7 under aerobic conditions at 20-35°; the cells are collected and transferred to a similar fresh nutrient medium at pH 2-4, (pref. 2-3); the second medium is homogenised and propagation continued for 2-7 days; the red pigment is then extracted. 2.6.77 as 724992 (4pp047)

BIOT- D16 91594A/51 =DS 2725-751
Acylase catalysis in absence of heavy metals e.g. cobalt - for prodn. of L-amino acids by stereospecific hydrolysis of (N)-acyl-D,L-amino acids
GES BIOTECH FORSCHU 07.06.77-DT-725751
*B04 (23.08.79) *DT2725-751 C07c-149/24 +C07c-99/12 C07c-103/48*

Process for isolation of L-aminocarboxylic acids and N-acyl-D-aminocarboxylic acids comprises enzymatic hydrolysis of the N-acyl-L-acids in N-acyl-D, L-acid mixts. or racemates using aminoacylase, (EC 3.5.1.14). The enzyme is activated by addition of a chelating agent to bind heavy metals; after excess chelating agent is removed, Mg^{2+} or Ca^{2+} ions are introduced, (pref. 1-70 (5-50) mmole/dm^3).

A prefd. complexing agent is EDTA. The process may be operated continously, with the Mg^{2+} or Ca^{2+} concn. controlled. The prods. are used in pharmaceuticals and nutrients. 7.6.77 as 725751 (8pp047)

EKOP- ★ D16 63242B/35 ★DT 2803-814
Granulate for oil absorption and degradation - prepd. by drying bacterial sludge from water purificn.
EKOPERL GMBH 28.01.78-DT-803814
H07 (23.08.79) C09k-03/32

Granulate made from bacterial sludge from biological purification of domestic and industrial effluents, by careful drying to retain active bacteria in the pores, is used for absorption of mineral oil and similar pollutants, and subsequent degradation.

Used for addn. to conventional granular absorbents after use, treatment of contaminated workshop floors in the metal processing industry, etc. The granulate can be stored for years and rapidly regains its original biological activity when water, biodegradable material and air are added. When dumped after use for oil absorption, the oil is degraded and risk of pollution eliminated. Development of unpleasant smells is prevented by addn. of oxygen-releasing salts, without killing the bacteria. 28.1.78 as 803814 (12pp195).

KOHL/ ★ D16 63265B/35 ★DT 2806-371
Oxalate determination - using oxalate oxidase to form carbon di:oxide and hydrogen peroxide which is then analysed
KOHLBECKER G 10.02.78-DT-806371
B05 C03 J04 R16 (23.08.79) G01n-31/14 G01n-33/16

Determn. of oxalate is effected by treating with oxalate oxidase to form CO_2 and H_2O_2, and then determining one of these reaction products (esp. H_2O_2).

The H_2O_2 can be determined (a) using NADH-peroxidase and $NADH_2$, (b) using peroxidase, 2-hydrazone-2,3-dihydro-3-methylbenzothiazole hydrochloride and dimethylaniline, (c) using peroxidase, 4-aminophenazone and phenol, or (d) by reaction with catalase and EtOH followed by determination of acetaldehyde with aldehyde dehydrogenase and NAD.

The technique can be used in medicine, food analysis and plant breeding. It is rapid, avoids sample pretreatment, and gives better results than the use of oxalate decarboxylase. 10.2.78 as 806371 (10pp367).

DEGS ★ D16 63318B/35 ★DT 2807-089
Lipase stabilisation in pharmaceutical preparations - using globular animal proteins
DEUTSCHE GOLD & SILBER 20.02.78-DT-807089 (00.00.76-DT-638088)
B04 (23.08.79) A61k-37/54

Use of 5-50 pts. wt. of an animal globulan protein or protein mixt. (excluding the use of 20-100 pts. wt. sweet whey powder contg. 8-20% whey protein) for stabilising 1 pts. wt. of non-animal lipase in pharmaceutical prepns. is new. New pharmaceutical prepns. contain lipase of non-animal origin and, per pt. wt. lipase, 5-50 pts. wt. of an animal globular protein or protein mixt. (excluding 20-100 pts. wt. sweet whey powder contg. 8-20% whey protein).

Lipase gives improved fat digestion and exerts a favourable effect on impaired liver and bile function. The lipase is stabilised by the protein. It remains fully active and is immediately bioavailable. Its activity commences immediately after mixing with the digestive juices in the stomach and is not subject to delay due to disintegration or dissolution times. 20.2.78 as 807089 Add to 2638088 (19pp280)

DEGS ★ D16 63319B/35 ★DT 2807-090
Lipase stabilisation in enzyme preparations - using animal globular proteins e.g. ovalbumin
DEUTSCHE GOLD & SILBER 20.02.78-DT-807090 (00.00.76-DT-638089)
B04 (23.08.79) C07g-07/02

New lipase-contg. enzyme prepns. contain as stabilising agent, per wt. pt. lipase, 5-50 pts. wt. of an animal globular protein or protein mixts. The use of 10-50 pts. wt. of sweet whey powder contg. 8-20 wt. % whey protein is excluded.

Provides improved stability of lipase, esp. in prepns. contg. constituents with surface-active properties. The lipase to be stabilised may be of animal or non-animal origin. Partic. pref. is the stabilisation of lipase from Rhizopus spp., esp. Rhizopus arrhizus.

Suitable stabilising proteins include albumins (ovalbumin, lactalbumin, serum albumin), globulins, prolamines, glutelines, globins, protamines and histones. The amt. of protein is pref. 5-25(esp. 10-20)pts. wt. per pt. wt. lipase. 20.2.78 as 807090 Add to 2638089 (11pp280).

FARB ★ D16 63329B/35 ★DT 2807-286
Phenyl-glycine derivs. enzymatic optical resolution - by stereoselective cleavage of N-acylamide or ester derivs. with carrier-bound enzymes
BAYER AG 21.02.78-DT-807286
A97 B05 (A14) (23.08.79) C07c-103/48

In the stereoselective cleavage of DL-phenylglycine derivs. and DL-4-hydroxyphenylglycine derivs., the ester or amide gp. of a corresp. N-acyl ester or amide is hydrolysed by means of carrier-bound enzymes; the N-acyl-D-phenylglycine ester or amide (or corresp. 4-hydroxy cpd.) is sepd. from the N-acyl-L-phenylglycine or N-acyl-L-4-hydroxyphenylglycine; and the ester or amide gp. of the D-enantiomer and/or the N-acyl gps. is/are opt. subsequently acidically hydrolysed.

D-Phenylglycine and D-4-hydroxyphenylglycine are intermediates for semisynthetic penicillin antibiotics. L-Phenylglycine is also an intermediate for the sweetening agent L-asparaginyl-L-phenylglycine methyl ester. Use of N-acyl derivs. of the starting DL cpds. allows much higher concns. of cpds. to be used than is the case with N-unsubstd. cpds. 21.2.78 as 807286 (25pp280).

SCHU- ★ D16 63341B/35 ★DT 2807-445
Small fermenter for intensive and rapid cell cultures - has extended baffle plates in outer ring chamber
E SCHUTT LAB ARZTE 22.02.78-DT-807445
(23.08.79) C12k-01/10

Microorganisms or cell cultures are propagated continuously or discontinuously, under sterile conditions, in fluid nutrient solns., by means of a small fermenter. This consists of a vertical cylindrical container with an inner working chamber in which a rotary agitator is fitted on a shaft extending over the whole length of the container.

Between the inner chamber and the outer container there is an annular chamber at the bottom of which there is a gas feed inlet. Projecting radially inwards across the outer chamber, baffle plates are fitted. These extend above and below the edges of the inner chamber over the length of the container and reach from the inner wall of the container to the outer wall of the working chamber.

The fermenter is designed partic. to ensure a much better degree of transfer of the gases in the nutrient soln., in the outer annular chamber, and at the same time to reduce the length of time required for fermentation. The extension of the baffles above and below the working chamber intensifies the agitation of the fluid and the gases, whilst in the outer chamber a rapid, rising, laminar flow is set up. Cell densities of 2-20g. dry wt. per litre of nutrient or culture fluid can be achieved. 22.2.78 as 807445 (13pp1045)

SHIO ★ D16 63444B/35 ★DT 2906-996
Antigenic haemagglutinin from Haemophilus gallinarum - for immunising poultry against infectious coryza
SHIONOGI KK 22.02.78-JA-020021
B04 C03 (23.08.79) A61k-39/02 C07g-07

New haemagglutinin obtainable by treatment of cells of Haemophilus gallinarum with trypsin has the properties (a) molecular wt. of sub-units ca 39000, determined by SDS-polyacrylamide gel electrophoresis; (b) protein with fibrous structure; (c) eluted almost at the Vo value of "Sepharose" (RTM) 6B; (d) loses antigenicity and haemagglutinating properties after heating 5 mins. at 100°C; (e) retains haemagglutinating activity after heating ≯5 mins. at 70°C; (f) amino acid content (proportion) lysine (0.73), histidine (0.22), arginine (0.31), aspartic acid (1.00), threonine (0.53), serine (1.09), glutamic acid (1.20), glycine (2.30), alanine (1.02), valine (0.71), isoleucine (0.37) leucine (0.68), tyrosine (0.18), phenylalanine (0.31).

The haemagglutinin is of use in the prodn. of a vaccine or serum for the treatment or prevention of infectious coryza of poultry, which is due to infection with Haemophilus gallinarum. Tests results given in the specification demonstrate the effectiveness of admin. of the haemagglut inin together with aluminium hydroxide adjuvant in protecting chicks against H. gallinarum infection. 22.2.79 as 906996 (16pp280).

BARR/ ★ D16 63462B/35 ★FR 2409-305
Small scale automatic energy producing installation for households - ferments organic matter, yielding methane in daily consumable volume
BARRETH H 22.11.77-FR-035966 (21.07.76-FR-023087)
H09 Q74 (20.07.79) C12d-03/10 F24j-03

A self-regulating, automatic installation produces methane and is intended for use in common by gps of households or by individual establishments such as smallholdings and farms. Prodn is effected by the controlled fermentation of organic matter of animal or vegetable origin in separate metal vessels. These are fed at the same time continuously and intermittently. The gas is produced without interruption at a pressure ensuring completely automatic working without electrical or mechanical control devices.

Used to produce energy in the form of methane gas as i is required without having to store it in pressure vessels of various kinds. The unpleasant work is eliminated and the relatively large amt of equipment previously necessar is reduced considerably. The energy is stored in the form of organic matter and not as gas. 22.11.77 as 035966 Add to 21.7.76 - 023087 (12pp1014)

PROC- D16 21639A/12 =GB 1551-566
Foam separator at outlet of fermentation vessel - has heater for reducing viscosity of viscous foam
PROCESS ENG CO 11.10.76-CH-012910
*+P41 (30.08.79) *CH-595-868 +B04b-05/12 B04b-15/02*

Appts. for continuously sepg. the gas and liq. in foam, partic. at a fermenter top, comprises upwardly convergent annular foam breakers on a rotatable shaft in an open bottomed housing, with each breaker narrow end being inserted in the wide end of the adjacent breaker.

The insertion creates an annular space in which radial ribs define channels. Fixed hollow baffles within the housing surround the breakers and have pipes for circulation of liq. The shaft is supported by bearings above and below the breakers. The baffles are pref. mutually adjustable. 11.10.77. as 042332 Add to 1482291 (3pp1358)

UKSO- ★ D16 63491B/35 ★GB 2014-452
Antigenically active bacterial cell envelope prepn. - formed by extracting cell envelopes with Zwitterionic surfactant
UK SEC SOCIAL SERV 16.02.79-GB-005605 (17.02.78-GB-006462)
B04 (30.08.79) A61k-39/02

Envelope is produced by disrupting bacterial cells, sepg. the cell envelopes, extracting these envelopes with a soln. of a zwitterionic surfactant and precipitating the prepn. from the extract. The zwitterionic surfactant may be N-alkyl-N,N-dimethylglycine derivs. at a concn. of 0.1 to 5% at a pH<9. The extract is pptd. by the addn. of a (1-5C)alkanol.

Used for prepg. vaccines, partic. of bordetella pertussis. The cell envelope prepn. is produced in high yield with the min. of other antigenic material. 16.2.79. as 005605 (3pp916)

JOHM ★ D16 63503B/35 ★GB 2014-55
Osmium and ruthenium amine nitride complex salts - are cel staining reagents in electron microscopy
JOHNS MANVILLE CORP 09.02.79-GB-004635 (09.02.79-GB 004635)
B04 E31 J04 R16 (30.08.79) C01g-55 G01n-33/16

Cell staining reagent comprises an aq. soln. of a cpd. of the formula (I):

$$\left[M_2^{IV} N(NH_3)_{8-2x} X_{5-y}(H_2O)_x \right] Y_y \quad (I)$$

(where M = Os or Ru; X and Y = same or different nitrate halide or pseudohalide, x = 0 or 1; y = 2 or 3).

Used in the detection for example of DNA and polysaccharides by electron micascopy. The specimens are prepd. for staining by fixing in Karnovsky fixative, dehydrating, embedding without osmium post fixing and thin sections are cut and mounted on gold grids. 9.2.79. as

004635 (6pp916)

ASAH ★ D16 63550B/35 ★J5 4043-181

Sepn. of e.g. microbes, cells or inorganics from liq. - by passing liq. over porous film by vibrating film

ASAHI CHEMICAL IND KK 12.09.77-JA-108891
J01 (05.04.79) B01d-13

A liq. contg. fine particles is introduced from a store tank through a pump and a vibration generator to one chamber partitioned by a porous film. The fine particles mean microbes such as bacteria, yeast, linear germs, etc. or cells dissociated from animal or plant tissues, or inorganic substances such as minerals, metals, etc.

Vibration is applied to the porous film and the liq. is flown along the porous film, so that smaller fine particles than the holes of the porous film are filtered to the other chamber. The liq. contg. the unfiltered fine particles is circulated to the store tank after it is diluted and washed with a liq. from a container. The operation is repeated to separate fine particles from the liq.

The liq. contg. fine particles may be continuously filtered in easy operation without damages of fine particles to provide the high filter velocity. 12.9.77 as 108891 (5pp35).

ASAH ★ D16 64040B/35 ★J5 4092-683

Recovering heat of fermentation - by adjusting pH of culture medium to alkaline

ASAHI CHEMICAL IND KK 30.12.77-JA-158160
(D15) (23.07.79) C12b-01

Process comprises (a) filling a closed vessel with culture medium of pH 9-12, contg. 55-60 wt.% of water and fermentative organic cpds.; (b) aerobically culturing a microorganism with control of pH to 9-12 by the addn. of ammonia-water; and (c) recovering the heat generated by fermentation.

By adjusting the pH of the culture medium to alkaline, the temp. of the culture medium can be raised to 80-90°C and the heat is effectively recovered. Specifically, as components of the culture medium, sewage sludge, sludge of faeces and urine-treating plant, waste water-sludge of fermentation, faeces and urine of animals and high-nutrient soil are used. 30.12.77 as 158160 (4pp42).

ASAH ★ D16 64041B/35 ★J5 4092-684

Deodorisation of organic cpds. e.g. sewage sludge etc. - by aerobic fermentation in the presence of ammonia and water

ASAHI CHEMICAL IND KK 30.12.77-JA-158161
C04 (D15) (23.07.79) C05f-07 C05f-09/04 C12b-01

Method comprises aerobic fermentation of the cpds. at pH 9-12 in the presence of ammonia and 55-65 wt.% of water. The method is applied for deodorisation of sewage-sludge, faeces and urine of human and animals, waste water of various fermentation process, waste sludge of soybean source prodn., etc. The period of treatment can be shortened remarkably (about 3-4 days).

The C/N ratio of the cpds. should be adjusted to 12-40, before the fermentation. By the addn. of 0.1 wt.% of metal oxide, the fermentation velocity can be increased. The prod. obtd. is used as fertiliser, soil-improving agent. 30.12.77 as 158161 (3pp).

NORQ ★ D16 64042B/35 ★J5 4092-689

Bonding enzyme to inner surface of narrow tube - by forming thin film of frozen soln. contg. enzyme and radiation-polymerisable cpd. inside tube, and irradiating

NORIINSHO 28.12.77-JA-157454
A96 B04 (23.07.79) C07g-07/02

An enzyme (I) is bonded to the inner surface of a fine tube (II) by (1) forming a thin film of frozen soln. (III) contg. (I) and 1 cpd. (IV) which polymerises on irradiation, by passing (III) through (II) chilled to <0°C and (2) polymerising (IV) by means of ionising radiation.

Specifically tubes of 0.5-5mm. dia. made of glass, vinyl chloride resins, PTFE or other synthetic resin are used. The inner surface is pref. first roughened by treatment with alkali, acid, solvent, etc. Examples of (IV) are acrylamide, acrylic acid, acrylate, polyvinyl cpds., polyalcohols, etc. As (I), amylase, protease, urease, acylase, oxidase, etc. are used.

The tube is used for analysis of specific cpds. by reaction with (I). The tube is easily handled owing to its high mechanical strength. 28.12.77 as 157454 (4pp42).

BIOR- ★ D16 64043B/35 ★J5 4092-690

Cellulase prodn. using water-soluble carbon source - by culturing Trichoderma viride in medium contg. nucleotide, nucleoside and/or their bases

BIO-RESEARCH CENTRE 29.12.77-JA-158458
(23.07.79) C12b-03 C12d-13/10

Prodn. of cellulase (I) comprises (a) culturing Trichoderma viride (II) in liq. culture medium contg. water-soluble carbon source (III) and ≥1 of nucleotide (IV), nucleoside (V) and base (VI) of these cpds. and (b) collecting (I) accumulated in the culture medium.

Pref. (III) is glucose, galactose, arabinose, erythritol, lactose, cellobiose, xylose, maltose, dextrin, etc. (IV), (V) and (VI) are adenosine-1-monophosphate, adenosine-2-monophosphate, adenine, guanine, adenosine, inosine-5'-monophosphate, cytidine-5'-monophosphate and uridine-5'-monophosphate. (II) is cultured at 20-35 (25-30) °C for 2-6 days.

(I) is produced in culture medium contg. water-soluble carbon source, resulting in more rapid culturing rate. 29.12.77 as 158458 (4pp42).

MITU ★ D16 64044B/35 ★J5 4092-691

Deoxyribonuclease prepn. - by extracting hepato-pancreas of Achatina fulica and purifying by affinity chromatography

MITSUBISHI CHEM IND KK 27.12.77-JA-160246
R16 (23.07.79) B01d-15/08 C07g-07/02 G01n-31/08

Prepn. of deoxyribonuclease (I) comprises (1) extn. of a compsn. (II) contg. (I) from hepatopancrease (III) of Achatina fulica and (2) purificn. of (I) by affinity-chromatography.

(I) decomposes polyadenyl acid deoxyribonucleotide and polythimidyl acid deoxyribonucleotide, selectively and does not decompose polycytidylic acid deoxyribonucleotide, poly guanyl acid deoxyribonucleotide and polyadenyl acid ribonucleotide.

The affinity chromatography is pref. carried out in a column packed with polyadenyl acid ribonucleotide. Before affinity chromatography, (I) is preliminarily purified by column chromatography of hydroxy apatite and/or phosphocellulose. (III) is homogenised and the ppte. obtd. when the concn. of ammonium sulphate is adjusted to 30-50 wt.% is collected. This ppte. is extracted with acetic acid buffer and (II) is obtd. 27.12.77 as 160246 (7pp42).

AJIN ★ D16 64045B/35 ★J5 4092-692

Fermentative prodn. of L-threonine - by culturing mutant of genus Brevibacterium

AJINOMOTO KK 27.12.77-JA-160818
B05 E16 (23.07.79) C12d-13/06

Fermentative prodn. of L-threonine (I), comprises (1) culturing mutant (II) of a microorganism belonging to Brevibacterium and having the ability for prodn. of (I) and rejecting α-amino-β-hydroxyvaleric acid, leucine and L-leucine-analogue (III) and (2) collecting (I) accumulated in culture medium.

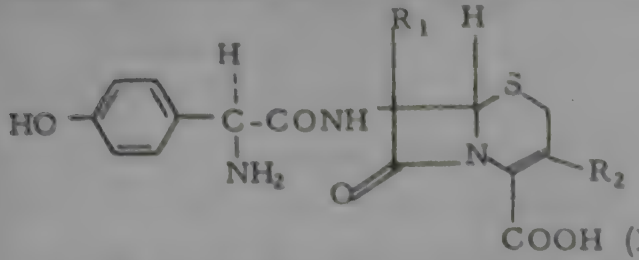
(II) is a novel stock having the ability for prodn. of (I) in high yield. Examples of (II) are Brevibacterium fermentum AJ 11195 (FERM-P 4353) and AJ 11196 (FERM-P 4354). To obtain (II), microbial of Brevibacterium is treated with N-methyl-N'-nitro-N-nitrosoguanidine. As (III), β-hydroxy leucine, 2-thiazole alanine, N-lauryl-leucine, N,N'-di-methyl leucine, etc. are suitable. 27.12.77 as 160818 (3pp42).

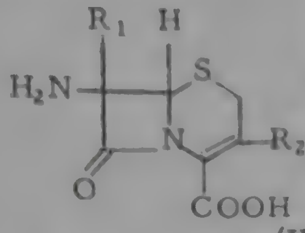
NIPK ★ D16 64046B/35 ★J5 4092-693

Enzymatic prepn. of cephalosporin derivs. - by reacting D-parahydroxyphenyl:glycine (ester) with 7-amino:cephalosporanic acid in presence of cultured) fungus

NIPPON KAYAKU KK 00.00.78-JA-112192 (23.06.76-JA-073311)
B04 (23.07.79) C12d-09/04

Prepn. of cephalosporin derivs. of formula (I) comprises enzymatically reacting (A) D-parahydroxyphenylglycine or its ester with (B) a 7-aminocephalosporanic acid deriv. of formula (II) in the presence of a culture, a fungus body or a treated fungus body of a microorganism belonging to Genus Alcaligenes or Aerococcus (e.g. Alcaligenes faecalis Castellani et Chalmers (IFO 12669, IFO 13111)). Aerococcus viridans (IFO 12219), etc.).


(I)


(II)

In the formulae, R_1 is H or methoxy; R_2 is carbamoyloxymethyl or 1, 2, 3-triazol-4-ylthiomethyl; provided that when R_1 is methoxy, R_2 is carbamoyloxymethyl. The enzymatic reaction is conducted by dissolving (A) and (B) in an appropriate buffer in a (A)/(B) ratio of 1-3/1 and adding the fungus body etc. Pref. substrate concn. of (B) is 0.1-3%. The enzyme is used in an amt. of 0.05-0.5% (dried fungus body basis) based on the reaction mixt. The reaction is conducted at 30-45°C, pref. 37-40°C for 0.5-5 hrs. pref. 3 hrs., at pH 5.5-6.0, under stirring. 23.6.76 as 112192 Div. ex 73311/76. (4pp).

AJIN ★ D16 64047B/35 ★J5 4092-694

Purine arabinoside-5'-mono:phosphate prepn. - by reacting phosphoric acid donor with purine arabinoside in aq. soln. in presence of suitable microorganism

AJINOMOTO KK 29.12.77-JA-157782

B02 (23.07.79) C12d-13

Prepn. of purine arabinoside-5'-monophosphate (I) comprises reacting a phosphoric acid-donor selected from p-nitrophenylphosphoric acid, phenylphosphoric acid, benzylphosphoric acid, 5'-cytidylic acid and 5'-uridylic acid with purine arabinoside in an aq. soln. in the presence of a microorganism belonging to Genus Erwinia, Staphylococcus, Seratia, Flavobacterium, Pseudomonas, Achromobacter, Escherichia or Aeromonas and capable of producing (I) from the phosphoric acid-donor and purine arabinoside (e.g. Staphylococcus aureus ATCC 14222).

The reaction is conducted by dissolving or suspending the fungus body or a treated fungus body in an aq. reaction mixt. and allowing the mixt. to stand at 10-70°C at a pH of 4-10,. if necessary under stirring. Addn. of a small amt. of Cu ion to the reaction mixt. sometimes increases the yield. 29.12.77 as 157782 (4pp140).

TAIS ★ D16 64048B/35 ★J5 4092-697

Enzyme inhibitor M-96 - inhibits activity of proline hydroxylase and suppresses abnormal collagen increase; is prepd. from Chaetomium microorganism

TAISHO PHARMACEUT KK 28.12.77-JA-160558

B04 (23.07.79) A61k-35/74 C07g-17 C12d-13

Enzyme inhibitor M-96 is new. M-96 inhibits the activity of proline hydroxylase and suppresses abnormal increase of collagen.

Prepn. comprises aerobically cultivating an M-96 producing strain belonging to Genus Chaetomium, e.g. Chaetomium aureaum Chivers IFO 6544 or 6443, in a medium contg. known nutrients.

In an example, Chaetomium aureaum Chivers IFO 6544 was shake-cultivated at 30°C for 5 days in a medium consisting of glucose 1%, soybean flour 1.5%, and yeast extract 0.1%. 28.12.77 as 160558 (5pp140)

JAAT D16 11877X/07 =J7 9021-868

Enzyme immobilization by polymers - e.g. for glucose isomerase

JAPAN ATOMIC ENERGY RES 15.11.73-JA-127764

*A96 B04 (02.08.79) *J50078-641 +C08f-02/44 C08f-20/56*

Enzymes or microbial cell bodies are immobilized in polymers CHX:CXC(O)N(R)(R') (I) (X=acetamide, alkyl, Ph halogenized alkyl, or H; R and R' = alkyl, hydroxyalkyl, acyl, halogenized alkyl, acylalkyl, alkoxyalkyl, alkoxycarbonyl, Ph hydroxyphenyl, sulphonyl, or H, except R=R'=H) In an example 25 mg. glucose isomerase was dissolved in 50 ml of a buffer and to this was added 5 g N , N-dimethylacrylamide (I), (X=H, R=R'=Me). The mixt. was exposed to UV light generated by a Hg lamp (400 W) from a 10-cm distance at 0°C for 360 min. The white ppte. formed was collected and used without further purifn. and drying. The enzyme activity of the prepn. decreased by 1.3% after using 4 times repeatedly. 15.11.73 as 127764 C08f-20/56, 2/44 (2.8.79) JAPAN ATOMIC ENERGY RES (6pp) (J50078641)

EIKE- ★ D16 64114B/35 ★J7 9022-119

lacto:dehydrogenase determn. - involves reducing nicotinamide nucleotide using lacto-dehydrogenase in lactic acid and forming red chelate which is subjected to colorimetry

EIKEN KAGAKU KK 31.08.72-JA-087418

J04 R16 (04.08.79) G01n-31/22 G01n-33/16

Method comprises reducing nicotinamide nucleotide by lactodehydrogenase in lactic acid, adding phenazine methosulphate and ferric ions to reduce ferric to ferrous ions, adding basophenanthroline sulphonic acid (BPT) to form a red chelate cpd. with the ferrous ions, adding Zn^{++} to form a colourless chelate cpd. with excess BPT, and determining the red chelate by colorimetry. 31.8.72 as 087418 G01n-33/16 31/22 (4.8.79) EIKEN KAGAKU KK (4pp83)(J49044798)

WAKP D16 38452W/23 =J7 9022-120

Monoamine oxidase detmn. in biolog. samples - photometrically using azo derivs. as substrate

WAKO PURE CHEM IND KK 07.06.73-JA-064112

*B04 J04 +R16 (04.08.79) *J50015-599 +G01n-31/14 G01n-33/16*

Monoamine oxidase (MAO) activity in biol. samples can be detd. photometrically by using azo derivs. of the type H_2NH_2CXNNR (X=aromatic radical except Ph, R=chromophore-forming radical) as substrate.

In an example 2.0 ml 2-(3'-nitro-4-aminomethylphenylazo)-m-cresol (1 mM) in a Tris buffer was placed in a centrifuge tube and heated at 37° for 3 min. A serum sample (0.3 ml) was added to the tube and incubated at 37° for 2 hr. The reaction mixt. was extd. with 4 ml cyclohexane and centrifuged. The light absorption of the reaction mixt. was detd. at 242 nm. 7.6.73 as 064112 G01n-33/16, 31/14 (4.8.79) WAKO PURE CHEM IND LTD (7pp)(J50015599)

TAKE- ★ D16 64139B/35 ★J7 9022-500

Lactobacillus-contg. jelly prodn. - by culturing lactobacillus in medium including glucose, yeast extract and chlorella extract, adding gelling agent and seasoning, and gelling

TAKECHI CHLORELLA 08.09.72-JA-090139

(07.08.79) A23c-21 A23l-01/04

Method comprises culturing lactobacillus in a medium contg. glucose, yeast extract and broth and/or chlorella extract, adding to the culture soln. seasoning, gelling substance (e.g. gelatin, agar-agar, etc.) spice, etc, and gelling the mixt. 8.9.72 as 090139 A231-1/04, A23c-21/00 (7.8.79) TAKECHI CHLORELLA KENKYUSHO KK (2pp83) (J49047548)

TANA ★ D16 64141B/35 ★J7 9022-51

L-Isoleucine prodn. in improved yield - by incubating alpha aminobutyric acid resistant strain of Serratia medium contg. D threonine

TANABE PHARMACEUTICAL KK 25.01.68-JA-004519

B05 E16 (07.08.79) C12d-13/06 C12k-01/02

Prodn. of L-isoleucine is effected by incubating α-aminobutyric acid resistant strain of Serratia marcesence in culture medium including D-threonine, and isolating L-isoleucine from the culture medium. Prodn. of L-isoleucine is increased cf. when using the original strain

In an example a platinum loop of Serratia marcescence 209 B No. 130-1 (α-aminobutyric acid resestant strain) was inoculated in a culture medium (pH: 7.0) including 2% wt. D-threonine, 2% wt. glucose, 10 % wt. dextrin, 0.7 % wt. corn steep liquor, 0.1 % wt. K_2PO_4, 0.5% wt. $MgSO_4$, 0.5% wt. urea and 2% wt. $CaCO_3$, and incubated at 30°C. for 40 hrs. with shaking at 140 rpm. After incubation, 17 mg/ml of L-isolcucine was produced in the culture medium. L-isoleucine was recovered. 25.1.68 a 004519 C12d-13/06; C12k-1/02 (7.8.79) TANABE PHARMACEUTICAL KK (3pp68)

KOJK D16 35328V/19 =J7 9022-51

Ligno-sulphonate decomposition - using micro-organisms of typ Strepto-myces S-5 and Y-10

KOJIN CO LTD (KOJN) 04.05.72-JA-043733

*F09 (07.08.79) *J49006-196 +C12b-01 C12d-01/02*

High mol. lignosulphonate (I) contd. in the sulphate pulp waste is decompd., by Streptomyces S-5 (II, FERM-P

1454) and Y-10 (FERM-P 1455). Decompsn. of (I) is recognised with UV absorption, COD, chromatog., mass anal., and mol. wt. (II) was cultured in a medium (pH 7.0) contg. (I) 1. NH_4NO_3 1, K_2HPO_4 1.5, $MgSO_4\ 7H_2O$ 0.5, and $FeSO_47H_2O$ 0.01 g/l. at 40° for 1 week-1 month. Colour of the medium became pale after 3 weeks. COD was removed by 30-35% after 1 month. Vanillate, p-hydroxybenzoate, ferulate, etc. were identified in the filtrate of 1 month cultivation. 4.5.72 as 043733 C12d-1/02 C12b-1/00 (7.8.79) KOJIN CO LTD (4pp)(J49006196)

NITP D16 26541W/16 = J7 9022-515

Biochemical separation of l-menthol - from dl-menthol (isomers) esters of org. carboxylic acid using bacterial esterase

NIPPON TERPENE KAGA KK 30.03.73-JA-035594

*B05 E15 (D23) (07.08.79) *J49124-287 +C12d-13*

1-Menthol (I) was biologically sepd. from dl-menthol ester of an org. carboxylic acid or a mixt. of esters of org. carboxylic acid of dl-menthol isomers by action of an esterase of Alginomonas nonfermentans NOF-5 (FERM-P 1924).

In an example, the microorganisms were cultured on a medium contg. K_2HPO_4 0.36, Na_2HPO_4 1.38, KCl 0.05, $MgSO_4$ 0.05, NH_4NO_3 0.1, and peptone 0.7% at 30° for 24 hr. Menthylacetate (II) was added to the culture broth at 1.5 g and stirred for 96 hr. Reaction products were sepd. by steam distn. yielding 1.35 g; mixt. of (I) 35.3 and unreacted (II) 64.7%. (I) was sepd. by alumina column chromatog. 30.3.73 as 035594 C12d-13/00 (7.8.79) NIPPON TERPENE CHEM CO (5pp)(J49124287)

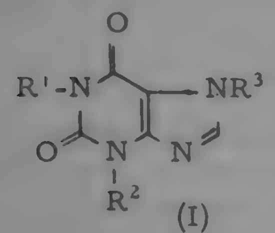
CHEL D16 08657V/05 = J7 9022-517

Prep. of oxoalkylxanthine - this has e.g. broncholytic and fibrinolytic activity

CHEM WERKE ALBERT 16.06.73-DT-330741 (12.07.72-DT-234202)

*B02 (07.08.79) *NL7309-709 C07d-473/04 +A61k-31/52 C12d-13*

Title cpds. of formula (I):-



(I)

(where $\geqslant$ 1 or R^1-R^3=3-8C oxoalkyl with the CO gp(s) one or more C's removed from the xanthine nucleus, and the others are 1-6C alkyl), may be prepd. from the corresp. hydroxy alkyl cpds. by (a) dehydrogenation with O_2 and a Gp. VIII metal catalyst. (b) oxidation with Cr(VI), or (c)microbiological dehydrogenation. 11.7.73 as 077560 (clg. 12.7.72;20.1.73;16.6.73-DT-234202;302772;330741) C12d-13/00; C07d-473/04; A61k-31/52 (7.8.79) CHEMISCHE WERKE ALBERT AG. (5pp)(J49051298)

SUMO D16 55903V/31 = J7 9022-518

Interferon inducing nucleic acid prepn. - by culturing Cortinellus Shiitake

SUMITOMO CHEMICAL KK 09.08.72-JA-080173

*B04 (07.08.79) *J49035-586 +A61k-45/04 C12d-13/06*

A nucleic acid with interferon inducing ability was prepd. from mycelia of Cortinellus shiitake (I). The substance was a H_2O insol. white power with max. spectral absorption at 258-260 mu, pos. in orcinol reaction.

Precultured (I) was cultured with shaking in a medium contg. glucose 35, polypeptone 2.5, yeast ext. 2.5, KH_2PO_4 1, $MgSO_4$ 0.5, $CaCl_2$ 0.5, NH_4 tartrate 1, $FeCl_36H_2O$ 0.01, $MnCl_24H_2O$ 0.0072, $ZnCl_2$ 0.005 and Cu SO_45H_2O 0.001 g in 1 l. added with 20 mg thiamine HCl/ml at 25° for 3 days. Washed mycelia were freezed at -20° and disintegrated with sea sands, extd. 3 times with 0.0075 M Tris HCl buffer contg. 1 mM EDTA and 0.1 M NaCl (I, pH 7.0) and PhOH satd. with the buffer. The H_2O-phase sepd by centrifugation was shaked with equal vol. Et_2O, 3 times to remove PhOH. The soln. was diluted with 5 times vol. of cold EtOH (-20°) and maintained at -20° overnight. White ppt. was collected by centrifugation and dried in vacuum to give 272 mg of the product from 117 g mycelia. Mice injected i.p. with 1 g powder/kg did not show any abnormal symptom. Original rabbit renal cells were treated with a soln. of the substance for 24 hr. washed twice, and infected with vesicular stomatitis virus with 100 TCID/50 ml (50% tissue culture infectious dose). No infection was found in the cells treated with > 1 μg/ml of the substance, after 24-48 hr. of cultivation. 9.8.72 as 080173 C12d-13/06, A61k-45/04 (7.8.79) SUMITOMO CHEM IND CO (6pp)(J49035586)

FARM D16 72064S/45 = J7 9022-520

Antibitotic axenomycind

SOC FARMACEUTICI ITALIA 04.05.70-IT-024144

*B04 C03 (07.08.79) *BE-766-606 A61k-35/74 C07g-11 C12d-09/14*

Novel antibiotic Axenomycin D is prepd. by culturing Streptomyces lisandri I.M.R.U. 3935 in a culture medium con-tg. a C-source, an N-source and mineral salts while strongly agitating and supplying a strong current of air at 23-37°C, and pH 6-9 for 60-160 hrs., and isolating the product by extraction with solvents and chromatography. Axenomycin D has strong anthelminitic, antiprotozoal and antifungal activity. 1.5.71 as 029376 (clg.4.5.70-IT-024144) C12d-9/14; A61k-35/74; C07g-35/74 (7.8.79) SOC FARMACEUTICI (7pp)(J46006944)

RIJK- ★ D16 64156B/35 ★NL 7801-517

Highly active hydrogenase from Desulfovibro vulgaris - useful e.g. for prodn. of hydrogen gas

RIJKSLANDBOUWHOGESC 09.02.78-NL-001517

E36 (13.08.79) C12d-13/10

Hydrogenase from Desulfovibro vulgaris has a mol. wt. of =50,000; an iron content of =11-20 Fe atoms/mol.; a content of =12 acid-labile S atoms/mol.; a K_m value for methylviolet in the H_2 prodn. test with Na dithionite of 0.20mM and a V_m value of 4600 units/mg; A K_m value for benzyl violet in the hydrogen uptake test of 3mM with a V_m of 50,000 units/mg; and a low sensitivity to oxygen.

The hydrogenase produced from Desulfovibro vulgaris is obtd. in high yield and is highly active. The enzyme can be used e.g. for the prodn. of H_2 gas e.g. by coupling the enzyme with photosynthesis systems which catalyse the photolysis of water to protons, reduction equivs. and oxygen; by coupling the enzyme to photochemical systems which catalyse the oxidn. of organic cpds.; or by coupling the enzyme to (bio)chemical systems which oxidise organic substances. 9.2.78 as 001517 (16pp513)

PRPO= ★ D16 64300B/35 ★SU -633-658

Binder for foundry cores and moulds prodn. - comprises a lignosulphonic complex, water and potassium or sodium chloride

PERM POLY (PRPA=) 02.08.76-SU-395403

M22 P53 (28.11.78) B22c-01/20

Binder for foundry cores and moulds based on solid concentrate of sulphite-yeast fermentation residues has improved binding props., storage and dispensability. The binder comprises (in wt.%): a lignosulphonic complex 59-66, water 29-31, and K or Na chloride 5-10. The solid concentrate is obtd. in granular form by mixing dry components in a fluidised bed at 10-15°C.

Kravchenko N.A., Postnikova M.V. Gimasheva R.G. et al. Bul. 43/25.11.78 2.8.76 as 395403 (2pp1347)

PIKO/ ★ D16 64434B/35 ★SU -633-897

Proactinomyces phosphaticus fungal strain - used in agriculture for solubilisation of difficultly soluble phosphates in soil

PIKOVSKAYA R I 28.09.76-SU-408002

C03 (26.11.78) C12k-03

Solubilisation of difficultly soluble phosphates in the soil, mainly $Ca_3(PO_4)_2$ and $Mg_3(PO_4)_2$, so that they can be utilised by plants, is carried out by fungus Proactinomyces phosphaticus which was found in 1966 in humic-carbonate soil. The mycelium grow in the air. The colonies are slightly fluffy. The conidiophores are straight. The conidia are oval or round. The culture is grown at 28-29°C. It produces phosphates. In the soil, the difficultly soluble phosphates are first (in 2-3 days) converted into a soluble from which is subsequently assimilated

Pikovskaya R.I., Bakhtadze L.R., Bul. 43/25.11.78 28.9.76 as 408002 (5pp70)

EKOL- ★ D16 64585B/35 ★US 4164-405

Aerobic thermophilic fermentation of cotton gin waste - converts pest ridden agricultural waste prod. to useful medium

EKOL CORP 20.03.78-US-887963 (27.01.75-US-544669)

C03 (14.08.79) A01n-09 08

Controlling the rate of damping-off of plant seedlings cause by plant parasitic fungi comprises planting the seedlings in a medium contg. an effective amt. of horticultural medium. The medium is produced by aerobically fermenting cotton gin waste to biodegredadethe waste at 125°F with water in amt. 1-5 times the dry wt. of the gin waste. The gin waste is in a pile ≥ 10 peroxide by 8 ft. high to conserve self-generated heat in the interior of the pile. The exterior of the pile is systematically burned to the interior so that all the particles of gin waste are heated to 125-180°F for at least several hrs. to free the waste of any soil borne plant diseases, weed seeds, insects or nematodes present.

Method for composting cotton gin waste is provided. The humus produced is of commercial value. The composted gin waste is esp. useful as it is able to combat plant disease causing agents esp. Rhizoctonia solani. 20.3.78 as 887963 (10pp954)

SQUI ★ D16 64601B/35 ★US 4164-445

Prepn. of penicillin(s) by side chain precursor fermentation - with ethanol as major carbon source

SQUIBB E R & SONS INC 27.03.75-US-562540

B02 (14.08.79) C12d-09/10

Penicillins (I) are produced by fermentation by aerobic cultivation of a Penicillium micro-organism in a nutrient medium contg. the usual nutrients and side chain precursor, but with EtOH as the major source of C and chemical energy.

Commercial EtOH is a pure material, so that the fermentation medium contains fewer impurities and so recovery of good purity (I) is easier. The EtOH is easily handled because of its low viscosity and it is easily sterilised. 27.3.75 as 562540 (3pp1248)

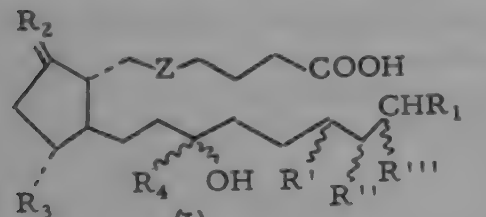
KONN D16 67684W/41 =US 4164-446

Bronchospasmolytic 18-, 19- and 20-hydroxy prostaglandins - obtained by microbiological hydroxylation of prostaglandins

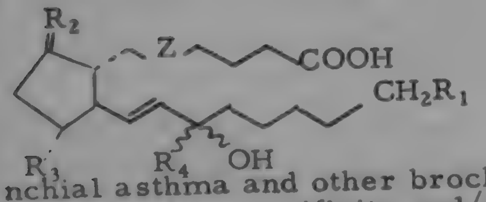
GIST-BROCADES NV 26.03.74-GB-013400 (26.03.74-GB-013399)

*B05 (14.08.79) *DT2513-222 C12d-01/02*

Prepn. of 18ε-, 19ε- or 20ε-hydroxy-prostaglandin cpds. of formula (I) comprises subjecting a cpd. of formula (II) to the hydroxylating activity of microorganisms or the enzymes thereof of the class Oomycetes, Coelomycetes, Hyphomycetes, Gasteromycetes, Hymenomycetes, Pyrenomycetes, Loculoascomycetes or Zygomycetes or, with regard to introduction of an OH gp. in position 18 or 19, of the genus Streptomycetes.



(I)



In the formulae, Z is $-CH_2CH_2-$ or cis in $-CH=CH-$. R_1 is H, CH_3 or C_2H_5. R_2 is O or H and x or β-OH. R_3 is H or OH. R_4 is H or CH_3. One of R', R'' and R''' is OH and the others are H. In (I) the dotted line is an opt. double bond. In (II), the dottedline in the 10-11 position indicates an optional double bond when the 8-12 position is satd.

(I) are used to treat bronchial asthma and other brochiospastic conditions. (I) have greater specificity and/or are less irntant at the site of application. 9.9.77 as 831950 Div.ex.4054595 (+25.3.75-US-561895) (24pp992)

BOEF D16 40938W/25 =US 4164-448

Activating cholesterol oxidase with surfactants - esp for rapid diagnosis of cholesterol in body fluid

BOEHRINGER MANNHEIM GMBH 16.08.74-DT-439348 (07.12.73-DT-361169)

*B04 R16 +P31 (14.08.79) *BE-822-843 C07g-07/02 G01n-31/14*

Activation of analytically pure, detergent-free, storage-stable cholesterol oxidase (I) for the analytic determn. of cholesterol is claimed. (I) is recovered from a microorganism by extn. with a surfactant.

Method comprises removing all traces of surfactant from (I) and adding, to an aq. soln. of the surfactant-free (I), 0.005-0.1 wt.%, w.r.t. the wt. of the aq. (I) soln., of ≥1 surfactant (III) with lipophilic and hydrophilic properties before use of (I). Pref. (II) is e.g. a polyoxyethylene alkyl ether.

Diagnostic agents for determining cholesterol comprising (I), a H_2O_2 detection system, a buffer and ≥1 surfactant (II), are claimed. 14.2.77 as 768530 (+4.12.74-US-529669) (6pp992)

WADL ★ D16 64602B/35 ★US 4164-449

Detecting microbial pathogens in lysed blood sample - by centrifuging in test tube with smooth surface insert

WADLEY RES INST BLOOD BK 03.11.77-US-848337

B04 J04 (14.08.79) C12k-01/04

The presence of microbial pathogens in a lysed blood sample is detected by first concentrating the pathogens. The blood and lysing reagent are placed in a vessel e.g. a test tube which is centrifuged to separate the microbial pathogens from the residual lysed blood sample. After concn. the pathogens are removed and cultured.

The end of the test tube against which the pathogens collect is filled by an insert to provide a smooth surface pref. in a plane perpendicular to the centrifugal force.

The method is used to detect septicemia in a blood sample. The smooth face insert provides improved recovery by providing a shorter path length for pathogens and therefore a greater average "g" force. 3.11.77 as 848337 (9pp295)

NYBL- D16 57893X/31 =US 4164-565

Viral hepatitis vaccine - prepd. from serum of particle size 16 to 50 nanometres and having free antigen-e

NEW YORK BLOOD CENT 14.03.75-FR-008046

*B04 (14.08.79) *BE-839-306 A61k-39/12*

Novel antigenic masses active against viral hepatitis comprise a soln. of a physiologically acceptable medium free of human serum proteins. The solns. contain e-antigen dissolved in the medium and antigen in an amt. sufficient to cause antibody formation in a host animal.

The antigen is obtd. from the serum of a chronic HBs Ag carrier whose serum contains c-antigen and the mass is free of anti-e antibody. 7.9.77 as 831327 Div.ex 4118479 (+17.11.75-US-631961)(25pp974)

MERI ★ D16 64659B/35 ★US 4164-566

Hepatitis A virus cell culture in vitro - after at least one passage in a susceptible sub human primate

MERCK & CO INC 17.08.78-US-934293

B04 (14.08.79) A61k-39/12 C12k-07

A method of growing hepatitis A virus in cell culture comprises modification of the virus by carrying out at least one passenge in a susceptible sub.-human primate, using the infected liver from such passage to inoculate an in vitro cell culture, incubating the culture until hepatitis A antigen is detectable in the culture cells or fluid, and carrying out at least one additional in vitro passage of the virus in cell culture. Suitable primates include marmoset monkey, owl monkey, rhesus monkey, African green monkey, cynomolgus monkey and chimpanzee.

The hepatitis A virus so-modified can be used to prepare live alternatéd hepatitus A vaccine or an inactivated hepatitis. 17.8.78 as 934293(5pp476)

ZAID D16 57009X/30 #US 4164-56

High purity macromomycin recovery from fermentation soln. - by salting out with ammonium sulphate, adding coagulating and neutralising agents, and low speed centrifuging

ZH BISEIBUTSU KAGAKU KEN 02.12.74-JA-139036 (31.05.77-US-801492)

*B04 (14.08.79) *J51067-794 +A61k-35*

A ppte. contg. macromoycin is formed from a macromomycin culture by adding a neutraliser to a culture filtrate of macromomycin in a satd. soln. of ammonium sulphate maintained at 5°C, then immediately adding a coagulant to the neutralised culture and recovering the ppte. contg. macromycin in high concn.

The neutraliser is sodium- or calcium carbonate, sodium bicarbonate, dibasic sodium- or potassium phosphate, monobasic sodium- or potassium phosphate, added in an amt. 0.25-1.0 wt.% w.r.t. the culture. The coagulant is ferrous sulphate or chloride, ferric sulphate or chloride, sodium aluminate or aluminium sulphate, added in an amt. 0.25-1.0 wt.% w.r.t. the culture.

Macromomycin is obtd. from culture filtrates of Streptomyces macromomyceticus and exhibits a strong inhibition of tumour growth. 31.5.77 as 801492(2pp931)

APOT ★ D16 64660B/35 ★US 4164-572
Zinc bacitracin compsn. pptd. from fermentation broth - useful as animal feed supplement with enhanced stability
APOTHEKERNES LAB FU A/S 26.04.78-US-899907 (06.10.76-US-730092)
B04 C03 (14.08.79) A61k-37 C07c-103/52

Zn bacitracin compsn. is prepd. by pptn. of Zn bacitracin from a fermentation broth to form a slurry, adjusting to pH 6-7, adding 50-100% (based on dry matter in the slurry) of finely divided carrier (I) and blending the mixt. Then spray drying the dispersion at 300-450°C so that water is removed quickly. The (I) used has 80% of the particles of dimension below 40 μ.

The compsn. has enhanced stability and is suitable for use in animal feeds for livestock and pountry as a growth promoter and therapeutic agent. The compsn. is resistant to adverse conditions of temp., humidity and mechanical mixing. 26.4.78 as 899907 C.i.p. 4096246 (7pp1248)

UYNY- ★ D16 64699B/35 ★WP 7900-609
Activating supports for covalent coupling of ligands - by reacting with cyanuric chloride in organic medium, useful for making solid-phase catalysts and bio:specific adsorbents
NEW YORK UNIV 09.02.78-US-876240
B04 (23.08.79) C07g-07 C08b-37 C08f-08/18 C08h-01
D/S: N(CH, DT, GB, JA, SW) + E(CH, DT, FR, GB, SW)

Method for covalently coupling protein and non-protein affinity ligands (L) to insoluble solid supports (S) comprises first reacting water-free (S) with trichloro-s-triazine (I) in a non-aq. organic solvent for (I).

The HCl generated is neutralised with a tert. amine which is soluble in (I) and does not form an insoluble com plex with (I). The dichloro-s-triazinyl activated support (S_1) is then washed with more solvent, and then coupled with (L).

Pref. (S) is washed with solvent or dried in vacuo before use to remove water. Pref. amines are diisopropylethylamine (II) and dimethylaniline and specified solvents are dioxan and acetonitrile.

The prods. are used as solid-phase catalysts (i.e. immobilised enzymes e.g. α-amylase which is used to convert starch to dextrins in the paper and textile industries and in glucose prodn.) and as biospecific adsorbents for isolating biological macromolecules.

Stepwise replacement of Cl atoms in (I) is possible and activated supports with only one residual Cl atom are stable to hydrolysis and can be coupled with (L) under mil conditions. The amt. of (I) introduced can be controlled b adjusting temp., reagent concn. etc. and (L) are more firmly held than when supports activated by cyanogen bromide are used.

9.2.79 as US0081 (21pp1251)
(E) ISR: US3619371; US3674767; US3876501; US3788945; US4119494; US3824150; US4007089; 2 Journal References.

See Also

D12 SU 633448 D15 DS 2558255 D17 J5 4092637
D21 J5 4092632 D22 J5 4091438

D17: SUGAR; STARCH

CORP ★ D17 63510B/35 ★GB 2014-578
Dextrose and multi-sugar syrup prodn. - by hydrolysing starch, crystallising dextrose and sepg. solids from liq.
CPC INTERNATIONAL INC 08.02.79-GB-004488 (09.02.78-GB-005294)
(30.08.79) C13k-01/08

Starch is treated so as to produce a hydrolysate contg. 70-90% dextrose and 30-5% at least one other sugar; dextrose is crystallised from the hydrolysate; and the obtd. massecuite is subjected to a solid-liq. sepn. to recover crystalline dextrose and, as the liq. phase, a multi-sugar syrup. The first step is performed, e.g., by saccharifying the starch with glucoamylase and ≥ 1 other enzyme, e.g. a maltogenic enzyme and glucose isomerase (forming maltose and levulose as well as dextrose).

The syrup is more useful and valuable in food applications than the conventional hydrolysed by-prod. of dextrose crystallisation. It can be used directly, blended with other sugars or syrups, or further treated to adjust the saccharide content. 8.2.79. as 004488 (7pp558)

AMAN ★ D17 64036B/35 ★J5 4092-637
High maltose-content syrup prodn. - by treating liquefied starch with culture prod. of Bacillus polymyxa or derived enzymes in presence of alpha-1,6-glucosidase
AMANO PHARM KK 28.12.77-JA-157378
(D16) (23.07.79) C12d-13

Prodn. of syrup (I) contg. > 80 wt.% maltose, 8-15 wt.% malto-triose and < 0.4 wt.% glucose, comprises treating liquefied starch of D.E. < 5 with culture prod. (II) of Bacillus polymyxa or enzyme (III) obtd. from (II), in the presence of α-1,6-glucosidase, where the ratio of the activities of α-amylase/β-amlyase should be 0.02-0.2.

Suitably 20-35 wt.% soln. of starch is liquefied by the treatment with α-amylase at 80-90°C. Then α-1,6-glucosidase produced by Aerobacter or Pseudomonas and (II) or (III) is added to the liquefied starch soln. and it is allowed to stand at 60°C for 20-48 hrs. The soln. is treated with activated carbon and/or ion exchange resin and concentrated.

In the syrup contg. > 80 wt.% maltose, which is prepd. by other known methods, maltose crystallises easily, depending on whether the syrup contains relatively highly polymerised saccharides. In the present (I), crystals of maltose are hardly formed. 28.12.77 as 157378 (5pp42).

FEDO/ ★ D17 64230B/35 ★SU-633-551
Bag filter for processing juices in sugar production - has filter elements with permeable surfaces which are regenerated by reverse flow of air-liquid under pressure
FEDOTKIN I M 18.05.77-SU-486100
J01 (25.11.78) B01d-29/38

Bag filter for liquids is for use in the food and chemical inds. for the sepn. of suspension, e.g. juices during sugar prodn. It consists of a body inside which the sheet-like elements are disposed, plus a system of pipelines and a pulsator. The regeneration of the filtering elements is improved, and the productivity of the filter is increased, by making the receiving chamber in two sections, linked by pipelines to the pulsator and the filter elements. Adjoining filtering elements are connected to different sections of the chamber. During the filtering stage the valve to feed in the suspension and take-away the filtrate are open and the partial discharge and complete discharge valves are closed. The oulsator is switched off.

Fedotkin I.M., Vorobev E.I., Anikeev Yu.V., et al. Bul. 43/25.11.78 18.5.77 as 486100 (3pp29)

IVE D17 44427A/25 =US 4164-429
Prepn. of seed crystals - by screening sepn. of fines followed by lurrying; used e.g. in sugar mfr.
FIVES-CAIL BABCOCK 14.12.7o-FR-037581
*J01 (14.08.79) *DT2755-717 C13f-01/02*

Crystallisation seeds are mfd. by forming a suspension of crystals produced from the seeded soln. in a fraction of the soln. to be seeded sepg. crystals above a desired max from the suspension in a first centrifugal sepn., removing crystals below a predetermined dimension with the suspension in a second centrifugal sepn., and using the crystals left after the second sepn. to seed the soln.

The crystals and suspension removed in the second sepn. are pref. recycled. The crystals left after the second sepn. are pref. mixed with the soln. to form a seeding magma. Continuous prodn. of sugar is assisted.
13.12.77 as 860043(8pp1376)

See Also

D13 DS 2828992 D13 J5 4092619 D15 NL 7809829
D15 NL 7810636

D18: SKINS; HIDES; LEATHER; TOBACCO

YOSH/ ★ D18 63204B/35 ★CA 1060-306
Processing raw leaf tobacco - by hydrogen application to eliminate nicotine and tar
YOSHIMURA Y 31.10.75-JA-131928
P15 (14.08.79) A24b-15/02

The treatment may take place either at atmospheric or superatmospheric pressures. The pref. temp. for the treatment is 10 to 30°C, while the tobacco may either be whole leaf or shredded. Pref. the treatment takes place in a closed vessel and the hydrogen may either be supplied continuously or discontinuously.

The process is used to produce a material from which the nicotine and tar are substantially eliminated without the use of chemicals. The smoking taste of the prod. is not adversly affected and the bitterness is reduced to one third of that in tobacco treated conventionally. Additionally the drying period is reduced to about one half that conventionally used. 27.10.76 as 264317 (11pp295)

CHEM- . D18 19395W/12 =DS 2257-766
Cigarette filter matl. contg. pine - esp. fir-wood bark - has good retention of polycyclic tar hydrocarbons and nicotine
VU CHEM ZARIZENI BRNO 25.11.71-CS-008241
*F09 P15 (23.08.79) *DT2257-766 A24b-15/03*

Cigarette filter contains 5-40 (12.5) wt.% comminuted conifer bark, esp. pine bark as well as a paper or fibre base and adsorption or absorption additives. The bark gives optimum filtration without altering the taste of the tobacco.
24.11.72 as 257766 (4pp068)

HAAR D18 50460V/28 =DS 2262-829
Chelate-contng. cellulose material tobacco substitute - in which chelateis an (alkaline earth and/or divalent manganese) iron or aluminium chelate
HAARMANN & REIMER GMBH 22.12.72-DT-262829
*A97 E12 P15 (23.08.79) *DT2262-829 A24b-15/05*

A smokable prod. is made from a combustible cellulose material and an alkaline earth and/or manganese (II)-metal (III)-chelate cpd. Metal (III)- chelate cpds. are defined as complex anions with trivalent Fe or Al as central atom and anions of chelate forming organic acids as ligand. The prod. gives a smoke similar to natural tobacco.
22.12.72 as 262829 (15pp068)

SIRE/ ★ D18 63432B/35 ★DT 2906-510
Filter material for gas or liq. media, esp. tobacco smoke - using matrix of active carbon contg. at least one metal, the matrix formed by pyrolysing e.g. starch or cellulose derivs. (be 20.8.79)
SIREN M J 21.02.78-SW-002007 (21.02.78-SW-002006)
A35 J01 P15 (A11) (23.08.79) A24b-15/03 B01d-39/14

The anionic gps. of a polyhexose deriv. are reacted with cations contg. at least one of the metals Ca, Mg, Ba, Al, Cu and/or the transition metals; and the reaction prod. is pyrolysed and activated so the metal is uniformly distributed in the active carbon.

The active carbon is pref. obtd. from a starch or cellulose deriv. in which the anions are carboxyl-, sulpho- or phosphoric acid- gps.; and the deriv. may be crosslinked via a cpd. such as epichlorohydrin, esp. to obtain material swelling from 1-50ml/g. in water. The active carbon pref. contains 1-3 metals, esp. 10-35 wt.% of metals, and partic. min. 15% Ca with Fe and/or Cu in an amt. equal to 10% of the Ca.

Used esp. as a filter for purifying tobacco smoke or for the purificn. of blood. 20.2.79 as 906510 (19pp1144).

WLSO ★ D18 63482B/35 ★GB 1551-412
Grading skins by measuring thickness and visually assessing grade - then measuring skin area and summing total batch area
WILSON E & SON LTD (FORT-) 17.08.76-GB-034094
R16 (30.08.79) G01n-33

Skins are categorised by passing through an assessment station. Within the station the thickness and area of each skin is measured while it is advanced by a conveyor. In addn. an operator grades the skin quality into one of a number of grades.

The appts. typically has 3 quality gradings and 5 thickness classes so that a skin may fall into one of 15 categories. A summation circuit is provided for each of these categories and is incremented by the area of the skin being examined. Thus each summation circuit indicates the total area of skins examined in each category. A signal is generated when a preset area is indicated by a summation circuit.

The appts. categorises skins at the 'wet-blue' stage and produces for dyeing batches of preset total area of skins with the same thickness and quality. Controlling the total area of a batch produces more efficient dyeing.
10.8.77. (7pp295)

YGOS ★ D18 64018B/35 ★J5 4092-601
Leather dyeing method - using water-insoluble azo cpd. contg. hydroxy- or carboxylic gps. obtd. by coupling reaction, without drying
YAMAMOTO KAGAKU GOS KK (UCHI-) 29.12.77-JA-160067
E21 (23.07.79) D06p-03/32

Method comprises using coloured water insoluble or hardly soluble azo cpd. contg. OH and/or carboxylic gps. which is obtd. by coupling reaction, without drying. Leather can be dyed homogeneously and strongly.

In an example, anthranilic acid is dissolved in hydrochloric acid soln. and to the soln. is added sodium nitrite soln. under cooling to allow diazo reaction to take place. To the resultant is added alkali soln. of β-naphthol under cooling to allow coupling reaction to take place. The resultant is washed with water, and mixed with water and dispersing aid, followed by homogenising, whereby red homogeneous dispersion of solid content of 10% is obtd.
29.12.77 as 160067 (6pp22).

TOBA= ★ D18 64213B/35 ★SU -633-517
Preparing tobacco before baling - by fermenting and final drying simultaneously under controlled conditions to reduce process time
TOBACCO MAKHORKA 03.08.76-SU-391818
P15 (26.11.78) A24b-03/12

Tobacco is prepd. for prodn. of smoking prods. by preliminary drying and simultaneous fermentation and final drying. To improve quality and reduce process time, fermentation and final drying are carried out in a loose mass in one stage at 70-80°C with air of 60-70% RH for

4-10 h. The prod. is then conditioned for moisture content, graded and baled. The method reduces process time 2.5-fold, and the prod. has improved colour, aroma and elasticity, while tobacco cost is reduced by 30%. Petrenko A.G., Popova L.K., Petrii A.I. et al. Bul. 43/25.11.78 3.8.76 as 391818 (2pp1358)

EAST ★ D18 64577B/35 ★US 4164-393
Preservative for hides in aqueous float - contg. propionic acid, sorbic acid, opt. dehydro acetic acid and methyl paraben
EASTMAN KODAK CO 17.04.78-US-897064
E17 (14.08.79) C14c-01

Animal hides in aq. float are preserved by the addn., based on the wt. of hides, of 1.0-2.0 wt.% propionic acid, amd 0.4-1.0 wt.% sorbic acid. The compsn. may also include dehydroacetic acid and methyl paraben, which may replace part of the sorbic acid content.

Hides may be preserved for periods of > 30 days. Use of large amts. of propionic acid, and of salt, is avoided. 17.4.78 as 897064 (-pp955)

BAUM- D18 27278A/15 =US 4164-43
Cigarette filter tips - impregnated, cut to sections and hot formed b ribbed rolls in two phases
BAUMGARTNER PAPIERS 05.10.76-CH-012568
*A88 P15 (A11) (14.08.79) *DT2744-398 A24c-05/50 +B29c-17*

Transverse-flow cigarette filters are mfd. by making a rod with a porous covering from cellulose acetate impregnated with a plasticising agent, cutting the rod into lengths several times a filters length, forming indentations in opposite sides of the cut rod sections, positioning the rod by engaging the section ends, and cutting the sections into individual filter lengths.

Pref. the indentations on one side of the rod sections are offset from those on the other side by the distance of half a filter. Waste in mfr. is avoided. 5.10.77 as 83960 (10pp1376)

See Also

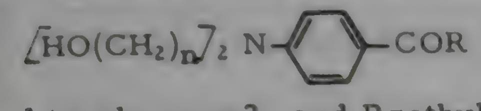
D13 J5 4092662

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL ; TOILET PREPARATIONS

BRIM ★ D21 63207B/35 ★CA 1060-475
4-Bis:hydroxyalkyl-acyl:phenone derivs. - useful as light absorbers, esp. in topical sunscreen compsns.
BRISTOL MYERS CO 26.04.76-CA-250974
A60 E14 G02 (14.08.79) A61k-07/42 C07c-97/10

Acylphenone derivs. of formula (I) are new (n=1-3, R=1-15 C alkyl. The cpd. with n=2 and R=CH_3 (cpd. (Ia)) is excluded). Specifically. claimed to where n=2, and R=ethyl, n-propyl or n-butyl.

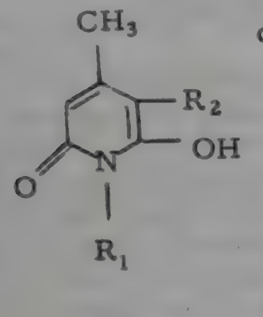


(I) are light absorbers useful for protecting the skin (a) against UV-induced sunburn and (b) against the effects of intermediate wavelength light (230-360nm). They are formulated as conventional topical compsns. contg. 1-10 (1.5-6)% (I). They can :also be used to protect e.g. pigments or plastics against UV light. 26. 4. 76 as 250974 (21pp1251)

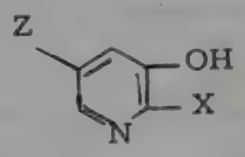
HENK D21 19950A/11 #DS 2739-227
Hair colouring agents giving wide range of colours - by successive application of diazonium salts and specific pyridine derivs. as coupling agent
HENKEL KG AUF AKTIEN (CIBA) 02.09.76-CH-011135 (31.08.77-DT-739227)
*E21 (23.08.79) *DT2739-227 A61k-07/13*

Human hair is dyed by application in any order of a diazo salt and a coupling component. The coupling component has formula (I) or (II)

(I)

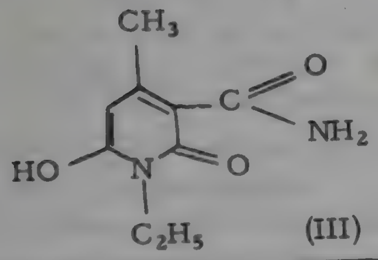


or



(II)

(where R_1 is H or ethyl; R_2 is -CN, amino -carbonyl or sulphomethyl; X is -OH or $-NH_2$ and Z is H or halogen) e.g. (III)



(III)

The dye may be used on bleached or grey hair. 31. 8. 77 as 739227 (7pp068)

WELA ★ D21 63279B/35 ★DT 2806-603
Compsn. for dyeing eyebrows, eyelashes and beards - contg. separate aq. solns. of catechol and silver nitrate
WELLA AG 16.02.78-DT-806603
E14 (E32) (23.08.79) A61k-07/13

Compsn. for colouring eyebrows, eyelashes and beards comprises two separate aq. solns. One contg. catechol (I) and the other $AgNO_3$ (II).

Pref. the first soln. contains 0.1-5(1-3)wt.% (I) and opt. a stabiliser, esp. ascorbic acid and/or Na_2SO_3. The second soln. pref. contains 0.1-5(1.5-4)wt.% $AgNO_3$ with NH_3 added to pH 10.5-11. The compsn. may contain usual cosmetic additives.

Solns. of (I) are more easily stabilised against oxidn. than those of pyrogallol and have improved physiological compatibility. The colourings prod. are fast to wear. 16. 2. 78 as 806603 (7pp1251).

KETT- ★ D21 63305B/35 ★DT 2806-948
RTV silicone impression compsns. - contg. pptd. aluminium hydroxide filler, esp. for dental applications
KETTENBACH A FAB CH 18.02.78-DT-806948
A96 E33 (A26) (23.08.79) C08k-03/22 C08l-83/04

$Al(OH)_3$ obtd. by the wet pptn. process is used as filler in room temp. vulcanising (RTV) silicone impression materials based on a siloxanol paste and a hardener. Pref. the siloxanol oil is a condensable α, ω-dihydroxypolydiorganosiloxane, esp. as α, ω-dihydroxypolydimethylsiloxane with a viscosity of 1000-80000cP/20°C. The base paste may also contain other known fillers and mineral oils as plasticiser.

The pptd. $Al(OH)_3$ has excellent oil uptake properties and gives stable pastes with RTV siloxanol oils which do not suffer from sepn. phenomena. The filler does not affect the curing reaction of the material, so that it cures rapidly after mixing with the hardener to give stable elastomeric prods. with good mechanical properties. The compsns. are esp. useful for taking dental impressions. 18.2.78 as 806948 (21pp513).

RIGA/ ★ D21 63393B/35 ★DT 2905-102
Electric vacuum furnace for melting gold or dental alloys etc. - where graphite resistance heating element also forms crucible
RIGATTI-LUCHIN L 16.02.78-IT-020325
M26 Q77 +R59 (23.08.79) F27b-14 H05b-03/62

The furnace chamber is connected to a vacuum pump, and contains a graphite crucible which is fitted with an electric conductor terminal at each end so the crucible is also used as the resistance heating element which melts the alloys.

The pref. crucible consists of a round rod with two monolithic flanges; and located between the flanges is a boat-shaped recess in which the metals are placed for melting. Boat has an outlet hole located axially in rod and leading to one end of the rod where a mould is located. On the rod and beyond each flange is a Cu cheek connected to a transformer providing the melting current.

The crucible can be used for ⩾100 melting operations before it needs to be replaced. 10.2.79 as 905102 (13pp1144).

HOAJ/ D21 88302Y/50 =GB 1551-573
Facial beauty treatment with clay mask over cleansing compsn. - and above this mask of active minerals
HUI BON HOA J 23.08.76-FR-026179
*(30.08.79) *BE-857-732 A61k-07/48*

Skin treatment is effected using compsns. (A) comprising 2 pts. wt. oil of cosbiol 6 pts. wt. olive oil and 22 pts. wt. powdered green clay and (B) comprising 50 pts. wt. kaolin, 20 pts. wt. ZnO, 30 pts. wt. Mg carbonate, 300 pts. wt. protodont, and 250 pts. wt. water.

The process, designed to give cell regeneration and activation comprises (1) spreading compsn. (A) over the skin and allowing it to dry to form a mask, (2) spreading compsn. (B) over the mask and leaving it for a predetermined time, (3) removing the mask from the skin and (4) rinsing the skin with water.

Method avoids irritation and cutaneous troubles and provides a regularised hydration of the skin. 23.8.77. as 035248 (2pp945)

PHAA D21 36653A/21 =GB 1551-637
Retinoic acid-lactic acid ester compsn. - in a lower alkanol medium, used for treatment of acne
PHARMACIA AB 19.11.76-SW-012936
*B05 P33 (30.08.79) *BE-860-992 A61k-07/48 A61k-31/07*

Compsns. for treating or preventing acne and similar skin conditions are new. They comprise 2-50 wt.% ethyl lactate, isopropyl lactate and/or glycerol mono- or di-lactate and 0.005-0.020 wt.% retinoic acid, its 1-4C alkyl esters and/or retinoic aldehyde in a medium comprising ethanol and/or isopropyl alcohol.

Pref. compsns. also contain ⩽ 25 wt.% moisture-retaining agent, esp. a 1-6C polyol. Pref. compsns. also contain an antioxidant for the retinoic acid component. 16.11.77. as 047614 (6pp974)

KUSA/ ★ D21 63544B/35 ★ J5 4041-333
Disinfectant, deodorant, antiinflammatory compsn. for skin - contains amphoteric aminocarboxylic acid type surfactant, polyoxyethylene alkyl:ether etc.
KUSANO K 02.09.77-JA-104732
A96 E16 (A25 D22 E12) (02.04.79) A61k-07/32 A61k-31/66

Disinfectant compsn. comprises an amphoteric surfactant of aminocarboxylic acid type, disodium ethyleneditetraaminoacetate, sodium polyoxyethylenealkylether sulphate, polyoxyethylenealkylether phosphate and polyoxyethylenealkylether.

The sodium polyoxyethylenealkylethersulphates may be sodium polyethyleneglycollaurylethersulphonate, sodium polyethyleneglycolpalmitylethersulphonate, sodium polyethyleneglycolmyristylethersulphonate, sodium polyethyleneglycolstearylsulphonate or sodium polyethyleneglycololeylethersulphonate. The polyoxyethylenealkylether phosphate is e.g. mono(polyoxyethylenelaurylether)phosphate, di(polyoxyethylenelaurylether)phosphate, tri(polyoxyethylenelaurylether) phosphate, di(polyoxyethylenestearylether) phosphate, etc.

The compsn. is useful as deodorant, antiinflammatory agent and disinfectant. It is non-irritating. 2. 9. 77 as 104732 (4pp16).

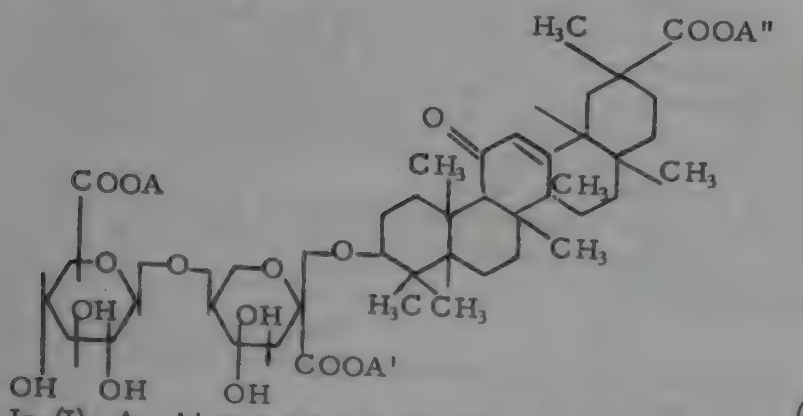
SANP ★ D21 64032B/35 ★ J5 4092-632
Cosmetics for whitening - contg. esterified prod. of maltonic acid with an aliphatic carboxylic acid
SANSHO SEIYAKU KK 29.12.77-JA-160732
A96 (D16) (23.07.79) A61k-07 C12d-13

Cosmetics for whitening comprises esterified prod. of maltonic acid with aliphatic carboxylic acid. The maltonic acid is one prepd. by fermentation of microorganisms e.g. strains belonging to the genus Aspergillus, Penicillium, Acetobacter, Gluconobacter, etc. The aliphatic carboxylic acid includes (un)satd. aliphatic carboxylic acid, hydroxymonocarboxylic acid, satd. dicarboxylic acid, hydroxycarboxylic acid, hydroxytricarboxylic acid, etc.

The esterified prod. is incorporated into the cosmetic compsn. in an amt. of 0.01-10% more pref. 1-5%. The basic components of the present cosmetic compsn. may be conventional ones such as alcohols, fat, surfactant, pectin, carboxymethyl cellulose, alginic acid salt, stabiliser, pigment, perfume, etc. 29. 12. 77 as 160732 (6pp22)

KANE ★ D21 64033B/35 ★ J5 4092-633
Cream or emulsion type cosmetics - contain glycyrrhizin deriv., water-soluble polysaccharide, oily material and water
KANEBO KK 28.12.77-JA-158920
E13 (23.07.79) A61k-07

The cosmetics comprise 0.01-20 wt.% of a cpd. of formula (I), 0.1-10 wt.% water soluble polysaccharide e.g. guaya gum, xanthane gum, etc. 5-90 wt.% oily material and 10-90 wt.% water.



(I)

In (I), A, A' and A" are H, Na, K, NH_4 or alkanol amine. The oily material used includes fluidising paraffin, solid vegetable fat, olive oil, almond oil, palm oil, etc.

The cosmetics have high stability and low toxicity to skin. 28. 12. 77 as 158920 (7pp22).

NATR D21 69497U/46 = J7 9021-858
Dental cements - contg polycarboxylic acid solns stabilised against gelaton, as liquid components
NATIONAL RES DEV CORP 18.04.72-GB-017880
*A96 +P32 (02.08.79) *DT2319-716 C08k-05/04 +A61c-05 C08k-03/22 C08l-33/02*

Cements consists of (A) a cement powder and (B) an aq. polycarboxylic acid soln. with relative viscosity 1.05- contg. a stabiliser which breaks up hydrogen-bridge b Pref. (B) contains 20-65 wt.% polycarboxylic acid, pr an acrylic acid homo- or copolymer, and (A) is a meta oxide powder, powdered fused oxide, oxide glass or A osilicate glass. The stabiliser is a proton acceptor e methanol, or contains a structure-breaking ion (e.g. p chlorate or hexametaphosphate). (A) and (B) when mix together form a plastic mass, which can be shaped, an sets in the mouth in a few minutes. 17.4.73 as 042777 (clg. 18.4.72-GB-017880) C08l-33/02; A61c-5/00; C08k 04, 3/22 (2.8.79) NATIONAL RESEARCH DEVELOPME CORP (6pp)(J49018142)

BEGO- ★ D21 B/35 ★ OE 7803-
Dental crown or bridge mfr.
BEGO BREMER GOLDSCH 19.05.78-OE-003652
P32 (15.08.79) A61c-13/08

SHOF- D21 47327Y/27 = US 4164-
Copper-silver-tin-indium dental alloy - for mixing with merc giving a nontarnishable strong dental amalgam
SHOFU DENTAL MFG CO 22.12.75-JA-153664
*M26 (14.08.79) *DT2658-120 C22c-05/06 +C22c-07*

An alloy for a dental amalgam consists (by wt.) of ⩾ 50 Ag, 20-30% Sn, 3-6% In and 11-20% Cu which forms the intermetallic cpd. Cu_6Sn_5 with the Sn and which provides only minimal amts. of imalloyed Sn to form the gamma-phase upon amalgamation.

The alloys give amalgams, with Hg, having good phys cal and mechanical properties and tarnish resistance. A specific alloys consists of 60% Ag, 23% Sn, 12% Cu and 5% In. 27.3.78 as 890307 (+17.11.76-US-742454)(4pp976

AMCY ★ D21 64657B/35 ★ US 4164-5
Aerosol hair spray contg. aliphatic hydrocarbon propellant - ar carboxylic acid-contg. polymeric material, has low flammability
AMERICAN CYANAMID CO 21.10.77-US-844241
A96 G04 (14.08.79) A61k-07/11

Hair spray compsn. comprises (a) 65-80 wt.% liq. concentrate phase; and (b) 20-35 wt.% of a lighter hydrocarbo propellant phase.

The liq. concentrate phase (a) comprises, based on the total wt. of (a) and (b), (i) 2-5 wt.% of a film-forming carboxylic acid contg. polymeric material which is a copolymer of an alkyl vinyl ether and the monoethyl or monobutyl ester of maleic acid; (ii) 2-12 wt.% water; (iii) 0.1-0.3 wt.% organic base neutraliser for the carboxylic acid-contg. polymeric material; and (iv) the balance to total 100 wt.% of ethanol and/or isopropanol. 21.10.77 as 844241(3pp1390)

MINN D21 77893X/42 = US 4164-563
Non-greasy compsn for topical application to skin - comprising a viscous greasy base and a powder
MINNESOTA MINING CO 24.03.75-US-561421
*A96 B07 (14.08.79) *DT2612-330 +A61k-31/74*

Novel non-greasy occlusive compsns. for topical application to the skin comprise 40-90 wt.% greasy viscous base and 60-16 wt.% solid non-irritant ointment-forming powder.

The base is solid petrolatum or an animal, mineral or synthetic oil and is thickened by a wax or a hydrocarbo polymer. The powder is a poly(2-6C) olefin of mol. wt. 3000-150000 and no. ave. max. size ⩽ 30 µm. The viscous base is not absorbed by the powder below 50°C and the two components are mixed at ⩽ 50°C.

Ointments may also contain pigments medicaments etc. 24.3.75 as 561421(9pp974)

MCGA/ D21 40351B/21 = WP 7900-577
Garment which automatically removes unwanted hair - comprises fabric coated with microcapsules contg. liq. depilatory agent
MCGALLIARD J D 01.02.78-US-873814
*A83 F07 P21 (23.08.79) *US4152-784 A41b-11*
D/S: N(JA)+E(CH, DT, FR, GB, LU, SW).

Micro-capsules contg. a depilatory are attached to clothing worn against the skin and are ruptured by rubbing against hair stubble.

Hair is removed at relatively slow rate by the clothing, .g. nylon stockings, and thus build up of odour is pre- ented.

.2.79 as US0051 (10pp1320).

E) ISR: US2372664; US3565819; US3470877.

See Also

D25 DT 2905252

D22: BANDAGES; DRESSINGS

OHJ ★ D22 63155B/35 ★BE -874-353

Absorbent pad for disposable napkins, sanitary towels etc. - made f bleached peat mixed with finely divided wood pulp

JOHNSON & JOHNSON 30.01.79-US-007280 (21.02.78-US-879832)

A97 F09 P21 P34 (21.08.79) A41b A61p B01j

An absorbent pad comprising a mixt. of peat and finely divided wood pulp. The pulp has a drainage index of 30-600 (50-300), as measured by the Tappi process, T-227, (Canadian Standard Freeness). The wt. of wood pulp in the mixt. represents more than 35%, pref. more than 38%, of the wt. of peat in the mixt.

The peat is pref. bleached to a reflectance value of at least 70 on the 'C' scale of the Hunter Luminus System. The mixt. may include long fibres, e.g. of chemical wood pulp or rayon. The peat is pref. crushed and screened to a grain size range of 0.149 to 1.68 mm.

A mixt. for making absorbent pads to be incorporated in disposable napkins, sanitary towels periodic tampons, medical dressings etc. The mixt. permits the use of a high proportion of peat, which makes the pad highly absorbent and retentive of fluids. The mixt. is easy to handle and fix in a required shape. The mixt. produces a pad of acceptably light colour which, when incorporated in a prod. is n not noticeably different from wood pulp. 21.2.79 as 874353 (22pp448)

JOHJ ★ D22 63156B/35 ★BE -874-354

Multilayer absorbent pad for disposable napkin, sanitary towel etc. - includes inner layer made up of peat mixed with wood pulp

JOHNSON & JOHNSON 30.01.79-US-007279

A97 F09 P21 P34 (21.08.79) A41b A61p B01j

The pad is made up of two or more superimposed layers of absorbent materials.

A first layer comprises cellulose fibres and a second layer comprises a mixt. of peat and finely divided wood pulp. The wt. of wood pulp in the mixt. represents $>$35% ($\geqslant$ 8%) of the wt. of peat in the mixt. The wood pulp has a drainage index of 30-600, as measured by the Tappi Process, T-227 (Canadian Standard Freeness). The second layer is capable of absorbing at least twice the wt. of liq. absorbed by the first layer.

Used as absorbent pad for the mfr. of disposable napkins, sanitary towels, periodic tampons, medical dressings etc. The first layer can rest against the skin of a user while the more absorbent, second layer attracts liq. out of the first layer, making the skin contact drier and more comfortable. The prod. is less likely to leak now that the second layer tends to draw liq. inwards. 21.2.79 as 874354 (27pp448)

KOPP ★ D22 63203B/35 ★CA 1060-155

Treatment of wood to prevent staining, mould and decay - with aq. soln. contg. lithium and penta:chloro phenoxide ions

KOPPERS CO INC 05.03.74-US-447781 (23.04.73-US-353584)

C[illegible] F12 F09 P63 (14.08.79) B27k-03/40

The soln. pref. contains 0.01-2% Li ions as $LiOH.H_2O$, and 0.05-3% pentachlorophenoxide ions, as pentachloro- phenol, suitably stoichiometric amts. of the ions are used in the aq. soln. It is pref. buffered to pH 7-12. A typ- ical treatment soln. contains 20-90% water, 5-40% penta- chlorophenol, 0.05-18% LiOH, 0-22% buffer and 5-50% wa- ter-miscible organic solvent. The buffer is pref. Li tetraborate or citrate.

Treatment is effective without use of undesirable heavy metal toxicants. The treatment may also be applied to pulp, paper etc. and in various agronomic applications. 18.4.74 as 197794 (21pp1248)

RICH ★ D22 63223B/35 ★DS 1642-159

Work-basket for sterilisation baths - esp. for objects such as rubber teats which would otherwise float on sterilising medium

RICHARDSON-MERRELL INC 18.01.67-DT-642159

A35 P34 (23.08.79) A61l-03/02

A rectangular basket is made from four vertical grids, one of which is removable providing access to two side grids which are each fitted with guide rails for sliding trays (a). The vertical stack of trays(a) is used to receive and locate the objects, e.g. teats, so they cannot float upwards.

Each tray(a) pref. consists of wire grids coated with plastic; or pressed or drawn plastic; and all the trays(a) are pref. identical. The advantage is that all the objects are correctly aligned to permit entry of sterilising media and the escape of air from teats etc. The teats are used e.g. on milk bottles for babies. 18.1.67 as 642159 (5pp1144)

HENK D22 76458S/48 =DS 2026-240

Disinfecting solns contg active oxygen and activators

HENKEL KG AUF AKTIEN 29.05.70-DT-026240

*E19 +P34 (23.08.79) *BE-767-734 +A61l-13*

An aq. disinfectant soln. has pH 7-12 and contains 0.02-1 g/l of a cpd. liberating H_2O_2 (I) and 0.05-10 g/l of an activator (II) which is a N-acyl or O-acyl cpd. with 2-9 C acyl gp. or a (pyro)carbonate. For each atom of active oxygen present there are 0.25-6 activator (gps) present.

The soln. is obtd. by dissolving a solid prod. contg. 5-70 wt.% I and II, and $\geqslant$ 1 of the following: 95-3 wt.% of noncomplex-forming alkali, 95-10 wt.% complex builder 15-0 wt.% surfactant, 95-10 wt.% mostly neutral reacting diluent agent. The soln. is used to disinfect medical appts. and instruments. The soln. is odourless, tasteless and non-toxic. 29.5.70 as 026240 (9pp068)

LEPE D22 23658S/14 =DS 2045-337

Disinfectant comprising an organotin - compd a quat ammonium cmpd and a dialde

GRUPPO LEPETIT SPA (GOO /) 17.09.69-CH-014229

*P34 (23.08.79) *DT2045-337 A61l-13*

Disinfectant contains (a) 1-10 pts.wt. of a germicidal organotin cpd. e.g. a trialkyltin hydroxide, (b) 0.05-100 pts. wt. of a germicidal quat. ammonium cpd., e.g. alkyldimethyldichlorobenzyl ammonium choride (c) 10-200 pts. wt. lower aliphatic dialdehyde (d) $\geqslant$ 10 pts.wt. isopropanol and opt. (e) 1-20 pts.wt. emulsifier and 0.1-10 pts.wt. salicylic acid (salt).

The disinfectant has a greatly increased germicidal activity. 14.9.70 as 045337 (5pp068)

UNIL ★ D22 63269B/35 ★DT 2806-402

Rendering plastics foil water permeable - by passing heated foil through nip of cooled embossing rollers and passing through heated nip to rupture embossing projections

UNILEVER NV 15.02.78-DT-806402

A32 +P34 (23.08.79) A61l-15 B29d-07/22

Moisture permeable plastics foil is produced by heating the thermoplastic foil to a temp. adjacent the plastic range for deformation purposes by a pair of embossing rollers and simultaneous cooling to the thermo-elastic range by the rollers, and following further cooling the embossed projections of the foil are heated for a short period to the deformation temp. to shrink the projections and form apertures in the projections.

Used as cover foils for disposable diapers. Apertured projections promote capillary suction action. 15.2.78 as 806402 (19pp536).

POLQ ★ D22 63399B/35 ★ DT 2905-451
Foil-forming thermoplastic compsn. for orthopaedic use - contains polycaprolactone, cis-1,4- poly di:olefin, opt. ionomer and silica or silicate filler
POLYSAR LTD 17.02.78-CA-297189
A96 (23.08.79)*C08g C08k-03/36 C08l-09 C08l-67/04 C08p

New compsn. having thermoplastic properties contains (1) 70-80 pts. wt. poly-(ε-caprolactone) (I), 5-20 pts. wt. mainly cis-1,4-polydiolefin (II), and 0-10 pts. wt. ionomer (III), making up 100 pts. wt. polymer and (2) as filler, 10-30 wt.% w.r.t. polymer of SiO_2 or Ca silicate.

The compsns. are used esp. as foils, e.g. for orthopaedics, to form splints or bandages. They are miscible, have Shore C hardness 70-90; flexural strength $>100(>125)$kg/cm^2; bending modulus $>3000(>4000)$kg/cm^2; foils can be bent at room temp. by 180° without cracking or breaking. On heating to 60°C, e.g. by immersion in warm water, the foils do not lose their whole strength and can carry their own wt. without sagging. Foils adhere well to one another and can be worked 2-5 min. without becoming sticky. 13.2.79 as 905451 (12pp200).

MATS/ ★ D22 63835B/35 ★ J5 4090-888
Surgical suture - comprises stranded or knit PTFE tape or filament having longitudinally oriented fibrils bound by micro-nodes
MATSUMOTO H 27.12.77-JA-156551
A96 F07 P34 (A14) (18.07.79) A61l-17

The suture is made of a stranded or knit PTFE tape or filament having fine structure in which longitudinally oriented fibrils are bound by micro nodes at places.

The tape or filament is pref. made by drawing. The suture has pref. the tensile strength of >3g/denier and elongation percentage of 3-10%. The length of the fibril of PTFE is about several tens of microns to several mm., the width is about 0.1μ, and the thickness is about 5-10Å. The size of the micro node is 1-400 microns.

The suture has excellent flexibility and slickness, so it is easily handled. It does not react with human body and is resistant to an intense disinfectant. 27.12.77 as 156551 (4pp30).

MATU ★ D22 63868B/35 ★ J5 4091-438
Sterilisation of culture medium - esp. for hydroponic culture of crops, by passing between parallel electrodes
MATSUSHITA ELEC IND KK 22.12.77-JA-155795
C03 P13 P34 (D16) (19.07.79) A01g-31 A61l-01

A culture medium contg. a certain amt. of fertiliser is passed through netting, porous or open celled electrodes arranged in parallel with one another in which electrolytic current is applied between the electrodes.

When DC current is applied between electrodes, H^+ ion and OH^- ion are given off in and in the neighbourhood of each electrode to form an alkaline and acid environments around the electrodes. Thus the circulating culture medium in an electrolytic bath is brought into contact with the alkaline and acid environments which sterilise bacteria and virus present in culture medium. 22.12.77 as 155795 (4pp117).

JAPS ★ D22 64030B/35 ★ J5 4092-630
Gel-like solid contg. volatile active component - is obtd. by mixing finely powdered silica, alcohol solvent and active component
JAPAN SYNTHETIC RUBBER 29.12.77-JA-160091
C03 P34 (23.07.79) A01n-17/08 A61k-07/46 A61l-09/* B01j-13

The gel-like solid is obtd. by mixing 5-40 pts. wt. finely powdered silica, 95-60 pts. wt. alcohol solvent and an effective amt. of volatile active component. Examples of the alcohol solvents are ethanol, isopropylalcohol, butylalcohol, cellosolve having a b.pt. of 120-200°C and cyclic alcohols having a b.pt. of 150-180°C.

The volatile active component is a perfume, deodorant, insecticide, insect-repellent, etc. The depletion of volatile active component is indicated by the gel-like solid becoming white and hard. 29.12.77 as 160091 (4pp105).

MASH/ ★ D22 64049B/35 ★ J5 4092-779
Leather watch strap - coated with film of fluorocarbon resin opt. contg. steriliser to prevent growth of microbes and irritation of the skin
MASHIDA T 29.12.77-JA-160006
A86 P23 (23.07.79) A44c-05

A watch strap comprises film of fluorine resin on the surface of natural leather of strap material. The fluorine resi may opt. contain steriliser dispersed in it.

Fluorine resin is dissolved in solvent such as chlorinated solvent (e.g. 1,1,1-trichloroethane contg. 5% n-butyl acetate, trichloroethylene or freon-11, etc.), the soln. is applied to leather strap and the solvent is evaporated, forming a film of fluorine resin. Steriliser used is e.g. 2-(4-thiazolyl)-benzimidazole, N-dimethyl-N'-phenyl-N'-(fluorodichloromethylthio)-sulphamide, o-phenyl-phenol, etc. About 0.1-0.5% of steriliser is mixed into fluorine resin.

The resulting watch strap can prevent the propagation of infectious microbes such as mould on the surface by sweat or fat, and direct irritation of reagents and dye remaining in the band material to skin, which causes rash, can be prevented. 29.12.77 as 160006 (3pp50).

MASH/ ★ D22 64050B/35 ★ J5 4092-780
Watch strap prodn. - by forming film contg. dispersed steriliser on surface of natural leather strap material
MASHIDA T 29.12.77-JA-160007
A86 P23 (23.07.79) A44c-05

Process comprises forming a film in which steriliser is dispersed on the surface of natural leather strap material. The resulting strap prevents the irritation of skin by the toxin of infectious microbes such as mould which causes rash.

Specifically, a film of common surface treating agent such as cellulose lacquer, aminoacid resin, nylon system resin, etc. dissolved in solvent is applied to the surface of natural leather band. Steriliser used is e.g. 2-(4-thiazolyl)-benzimidasole, N-(fluorodichloro-methylthio)-phthalimide, o-phenyl-phenol, etc. About 0.1-0.5% of such steriliser is mixed into surface treating agent, and applied to the surface of the leather by spraying, immersing, etc. 29.12.77 as 160007 (3pp50).

ELED ★ D22 64093B/35 ★ J7 9021-783
Liner for baby's diaper - obtd. by coating or immersing fibre sheet in alkali- or hot water-soluble resin and impregnating with permeating agent
ELECTRO-CHEMICAL IND KK 09.03.73-JA-027143
A87 F06 P21 (02.08.79) A41b-13/02

Fibre sheet is coated with or immersed in an alkali-soluble or hot water-soluble resin and the resultant is impregnated with a permeating agent to give a liner for a baby's diaper. 9.3.73 as 027143 A41b-13/02 (2.8.79) ELECTRO-CHEMICAL IND KK (3pp22)(J49117139)

PPCA D22 05852X/04 = J7 9021-873
Modified cellulosic textiles - treated by swelling, dehydrating and forming the salt to improve fluid retention
PULP & PAPER RES CA INST 26.06.74-CA-203445
A11 F06 P32 (02.08.79) *DT2528-555 C08f-08/12

Modified cellulosics with better water and body fluid retention, is prepd. by frafting (1) an olefinic unsatd. polymerisable monomer with hydrolysable functional gps. or (2) a monomer with a carboxy gp. onto a fibrous cellulosic and hydrolysing or treating the prod. with alkali are further treated by washing the prod. with water until max. swelling is obtd., lowering the pH until minimum swelling is reached, treating the prod. to form a salt in solvent conditions allowing no swelling and drying the prod. The prod. may be used for nappies, tampons or surgical bandages. 17.6.75 as 073610 (clg. 26.6.74-CA-203445) C08b-8/12 (2.8.79) PULP & PAPER RES CA INST (9pp) (J51014988)

SAKC D22 28656X/16 = J7 9022-144
Indicator inks for ethylene oxide sterilisation - contg hexamethylene tetramine, basic dyes and solvents
SAKURA COLOR PROD 01.10.74-JA-113601
E19 G02 P34 + P31 (04.08.79) *DT2543-103 C09d-11 + A61b-17

Indicator inks to show the progress of sterilisation with ethylene oxide, consists of (A) hexamethylene tetramine, (B) a conjugated basic dye and (C) water or hydrophilic organic solvent. Satisfactory sterilisation, e.g. of medical instruments of rubber, plastics, glass, etc., is shown by bleaching or discoloration of the ink, due to strongly basic substances produced by reaction of ethylene oxide with (A).

The indicator bands or cards are not discoloured by exposure to moisture or ammonia before use. 1.10.74 as 113601 C09d-11/00; A61b-17/00 (4.8.79) SAKURA COLOR PROD. (3pp)(J51040228)

TAIH- ★ D22 64134B/35 ★J7 9022-486

Sterilisation of plastic-packaged food - by packaging food with water soluble gas e.g. carbon di:oxide, HF heating and applying external heat and pressure

TAIHEIYO KOGYO KK 08.04.75-JA-043049

A92 Q31 (07.08.79) A23l-03/10 B65b-31/04 B65b-55/02

Method comprises packaging food in flexible plastic bag together with water-soluble gas e.g. CO_2, heating the package by high frequency (e.g. electronic range), and then applying external heat and pressure. Rapid and uniform sterilisation is possible without breakage of the bag. 8.4.75 as 043049 A231-3/10, B65b-31/04, 55/02 (7.8.79) TAIHEIYO KOGYO KK (3pp83)(J51133439)

BOYD/ D22 88495X/47 #J7 9022-523

Support structure for an orthopedic cast etc. - is pliable during installation and becomes rigid subsequently in situ

BOYDEN J S 26.09.74-US-509452 (09.11.76-JA-135103)

*A96 F07 P32 +P21 P34 P73 (07.08.79) *US3990-437 A61f-13/04 A61l-15/07 D01d-11*

A flexible, pliable elastic support for use e.g. as an orthopaedic cast, is made by interlacing flexible pliable, spun filament(s), having a polymerisable organic liquid enclosed within the filament(s) interior, to form a pliable fabric.

The fabric can be made rigid e.g. one in contact with the structure requiring support, by exposing to a source of wave energy e.g. UV radiation which cause e.g. photopolymerisation of the organic liquid. The support can also be used for custom packaging, industrial shields, shoe liners, automobile body patch work, fibre glass patch work sculpture material, angel hair and other decorating materials, space station shields, durable press collars and cuffs, tents and other protective enclosures and patching material for conduits. but it is particularly useful for forming orthopaedic casts, braces or splints allowing improved air circulation and breathing.

The support is readily manipulated and shaped to the desired configuration, it is easily made rigid without the use of a stiffening agent which is sticky or malodorous. 9.11.76 as 135103 D01d-11/00; A61f-13/04; A611-15/07; D01f-8/00; D06m-10/00 (7.8.79) BOYDEN J S JR (5pp) (J53061727)

PURX D22 50745B/27 =US 4164-055

Cleaning and disinfecting hard floors - using head having two parallel flexible strips with suction applied to intermediate space

PUREX CORP LTD 11.04.77-US-786352 (21.11.77-US-853747)

*P43 +P28 (14.08.79) *US4158-575 +A47l-07*

Appts. for removing loose soil and bacteria from hard floors has a head with two parallel resilient strips projecting downwardly, a suction source to apply suction between the strips, a support on the head to engage the floor when the head is moved such that the lower edges of the strips flex in opposite directions to allow soil to enter the space between the strips, a spray nozzle to apply cleaning fluid to the floor to a position outside the space between the strips, and a handle to carry and provide movement for the head.

Floors are cleaned more hygenically than by using a wet mop. 21.11.77 as 853747 (7pp1376)

AMST- ★ D22 64646B/35 ★US 4164-538

Steam sterilising fabrics after conditioning cycle - with cycle modification dependent on load characteristics e.g. absorbency

AMERICAN STERILIZER 11.11.77-US-850845

P34 (14.08.79) A61l-01 A61l-03 A61l-05

A load of material which may include hard and soft goods is placed in a sealable chamber and steam sterilised. Prior to the sterilising operation the load is conditioned by removing air and heating. During this conditioning phase the pressure is lowered until a predetermined time has elasped and a predetermined low pressure has been reached.

When this condition is satisfied the pressure is increased to a preset maximum value at which point a second conditioning cycle is activated. Pref. there are four such conditioning cycles.

The method sterilises mixed goods, esp. fabrics. The method adapts the sequence in response to different loads of goods. For a large load evacuation continues until a low pressure is reached; for a small load where evacuation is rapid the evacuation continues beyond this low value to allow air to be released from the goods. 11.11.77 as 850845 (13pp295)

HAUT/ D22 83097Y/47 =US 4164-561

Insect repellant esp. for waste bins - contg. citral-contg. perfume, citronella oil and diethyl-toluamide

HAUTMANN H (GLOB-) 29.04.76-DT-618975

*C03 E17 (E14) (14.08.79) *DT2618-975 +A01n-09/02*

A housefly repellent contains 85.70 wt.% of perfume contg. 30 wt.% of citral; 7-15 wt.% of citronella oil; and 7-15 wt.% of diethyltoluamide. Pref. the perfume used is lemon, lime or orange, and the diethyltoluamide is m-diethyltoluamide. The liq. compsn. can be placed on a suitable carrier material, such as natural or synthetic fibre, foam, or other carrier with a porous structure which permits the active material to evaporate.

The insect repellent can be used in household garbage cans, large trash cans, and other waste containers, esp. waste baskets used in the kitchem. The prod. may also be attached in storage rooms, etc., where food stuffs are kept. 26.4.77 as 791110 (3pp931)

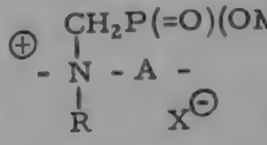
PETL ★ D22 64662B/35 ★US 4164-574

Control of microbiological growth in aq. systems - by addn. of polyquaternary ammonium methylene phosphonate cpds. as microbicides

PETROLITE CORP 14.10.77-US-842147 (24.03.72-US-237883)

C01 E11 H01 (D15) (14.08.79) A01n-09/36

Method comprises adding to the system a polyquaternary cpd. having the repeating unit of formula (I). R is $-CH_2P(=O)(OM)_2$, alkyl, aryl, alkenyl, alkaryl, aralkyl or cycloalkyl. A is 2-10C alkylene, 8-20C alkaralkylene, dialkylene ether in which each alkylene gp. has 1-10C alkenylene or alkynylene. M is H, ammonium, alkali metal or alkaline earth metal. X is Br, I or Cl.



$$\overset{\oplus}{}\;-\underset{\displaystyle R}{\overset{\displaystyle CH_2P(=O)(OM)_2}{\overset{|}{\underset{|}{N}}}}-A-\quad X^{\ominus}$$

(I)

Method is esp. applied to industrial water systems and to water flooding systems in secondary recovery of oil. The Parent Patent (US 3792084) claimed certain polyquaternary ammonium methylene phosphonates useful as scale inhibitors, chelating agents and microbicides. 14.10.77 as 842147 Div. ex 4084950, 3792084 (+12.11.73-US-414946 (13pp927)

AMCA D22 67132A/38 #US 4164-595

Pre-moistened toilet tissue prepn. from nonwoven fabric - bonded with acid polymer and impregnated with acid liquid, is disposable by flushing

AMERICAN CAN CO 12.05.78-BE-866986 (29.12.76-US-755195)

*A97 F09 P28 +P42 P73 (A18 A23 A96) (14.08.79) *BE-866-986 +B05d-03/10*

Prodn. of a premoistered wiper having high initial web strength and lower wet strength when immersed in neutral an alkaline liq. to allow for flushability, is described.

Method comprises (a) forming a non-waxen web of fibrous materials; (b) forming a liq. binder soln. consisting of water and a salt of an acid insol.-alkali sol. acidic polymer which is capable of bonding together the fibres of the web in acid liq. and is resistant in acid liq. to weakening of the bonding; (c) applying liq. binder soln. uniformly through the web; (d) drying the web; and (e) immersing it in acid liq. to bond together the fibrous material to the web with the acidic polymer.

Pref. acidic polymer include styrene-maleic anhydride and acrylic acid-methylmethacrylate copolymers. The wiper readily loses strength and disintegrates when disposed of in the neutral water of a sewer system. 5.9.78 as 939288 Div. ex 4117187 (8pp393)

See Also

D13 J5 4092619 D21 J5 4041333

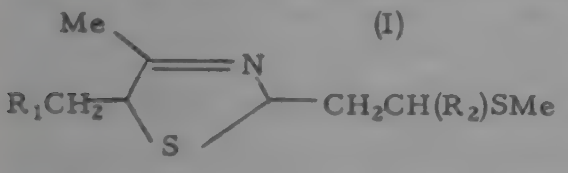
D23: OILS; FATS; WAXES

FIRM D23 62495W/38 =DS 2440-024
Aroma substance from caryophyllene and/or humulene - by reaction with formic acid
FIRMENICH SA 07.03.74-CH-003196
*B07 E15 +P15 (23.08.79) *DT2440-024 A23l-01/22 A61k-07/46 C07c-69/06*

4,4,8-Trimethyltricyclo $[6,3,1,0^{2,5}]$ dodec-1-yl and/or 4,4,8-trimethyltricyclo $[6,3,1,0^{1,5}]$ dodec-2-yl formate are used as perfumes, perfume additives, flavouring agents or flavouring additives. The latter ester is new. 21.8.74 as 440024 (5pp047)

INFL D23 59207Y/33 =DS 2759-502
Substd.-(4,5)-(di)methyl thiazoline cpd. perfume and cologne compsns. - useful in soap, detergent and powder
INT FLAVORS & FRAGR INC 07.10.76-US-730653 (07.10.76-US-730156)
*E13 +P15 (23.08.79) *US4040-987 A23l-01/22 C07d-277/10*

2-(2-Methylthioalkyl)-4,5-dialkyl-Δ^3-thiazolines of formula (I) are new. In (I), R_1 and R_2 are each H or Me. Prepn. of (I) comprises condensn. of alkylthioalkanals of formula $MeSCHR_2CH_2CHO$ with aq. NH_3, and the resulting imines are cyclised with butane-2-one-3-thiol or pentane-2-one-3-thiol.

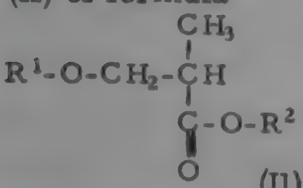


(I)

The prods are used as flavouring agents in foods and tobacco. 21.9.77 as 759502 Div. ex 2742391 (12pp047)

KYOX ★ D23 64034B/35 ★J5 4092-635
Perfume compsn. contg. beta-alkoxy:isobutyric acid ester - for powdered cosmetics, foods and drinks, imparting fruit or flower like aroma
KYOWA KK 28.12.77-JA-160556
E19 (23.07.79) A61k-07/46 B01j-31/02 C07c-69/67

The compsn. (I) contains β-alkoxy-isobutyric acid ester (II) of formula

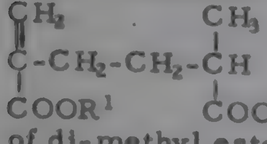

$R^1\text{-O-CH}_2\text{-CH(CH}_3\text{)-C(=O)-O-R}^2$ (II)

(where R^1 is ≤5C alkyl and R^2 is ≤10 alkyl, alkagenyl, cycloalkyl, allyl or allalkyl).

(II) has fruit-like and/or flower-like aroma. (I) is used for eau de Cologne, pomade, lotion, powdery cosmetics, foods and drinks. (I) is used as soln., paste and powder, by being mixed with vehicles, such as water, ethanol, ethylene glycol, propylene glycol and glycerin. 28.12.77 as 160556 (4pp42).

KYOX ★ D23 64035B/35 ★J5 4092-636
Perfume compsn. with fruit- and/or flower-like scent - contains alpha-methylene-delta-methyl-adipate
KYOWA KK 28.12.77-JA-160557
E17 (23.07.79) A61k-07/46 C07c-69/52

Compsn. (I) contains α-methylene-γ-methyl-adipic acid ester of formula (II)


$CH_2{=}C(COOR^1)\text{-}CH_2\text{-}CH_2\text{-}CH(CH_3)\text{-}COOR^2$ (II)

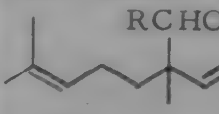
(where R^{1-2} are ≤10C alkyl). Compsn. is used for scenting a material.

(II) is prepd. by esterification of di-methyl ester of α-methylene-γ-methyl-adipate (III) with a suitable alcohol. (III) is prepd. by dimerisation of methacrylic acid methyl ester, that is carried out at 150-300°C in the presence of polymerisation inhibitor such as hydroquinone.

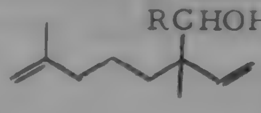
(II) has fruit-like and/or flower-like perfume. (I) is used as Eau de Cologne, pomade, lotion, powdery cosmetics, foods and drinks. (I) is used as soln., paste and powder, by being mixed with vehicles, such as water, ethanol, ethylene glycol, propylene glycol and glycerin. 28.12.77 as 160557 (4pp42).

KURE ★ D23 64062B/35 ★J5 4092-904
Unsatd. alcohol(s), prepd. by reacting isoprene with an aldehyde - useful as starting materials for synthesis of mono:terpene alcohol(s)
KUREHA CHEM IND KK 29.12.77-JA-159522
E19 (23.07.79) C07c-29 C07c-33/02 C07c-43/20 C07c-91/40

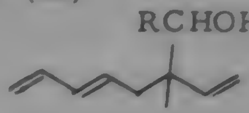
New unsatd. alcohols are of formula (I)-(III).



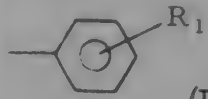
(I)



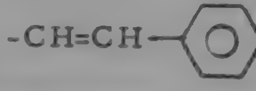
(II)



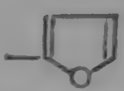
(III)



(IV)



(V)

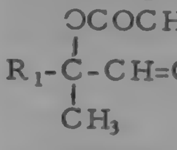

(VI)

In the formulae, R is H, $-C_nH_{2n+1}$, $-C_nH_{2n-1}$ or a gp. (IV)-(VI); n is 2-7; R_1 is H, CH_3, C_2H_5, halo, OCH_3 or $-N(CH_3)_2$. Cpds. are useful as starting material for synthesising monoterpene alcohols, i.e. linalool, geraniol and nerol.

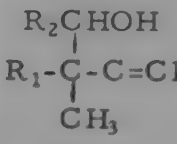
Cpds. (I)-(III) are prepd. by reacting isoprene with an aldehyde (RCHO) (e.g. an aq. formaldehyde soln., anhydrous formaldehyde, paraformaldehyde, acetaldehyde, acrolein, benzaldehyde, etc.) in the presence or absence of a base using, as catalyst, a salt, a chelate or a coordination cpd. of palladium, pref. bis-(tri-O-tolylphosphine) palladium or a phosphine. 29.12.77 as 159522 (12pp140).

KURE ★ D23 64066B/35 ★J5 4092-912
Prepn. of mono:terpene alcohol(s) and acetic acid ester(s) - for use as intermediates to vitamin/A, vitamin/E, vitamin/K, etc. and flavourants, respectively
KUREHA CHEM IND KK 29.12.77-JA-159523
B05 E17 (B03 E13 E14) (23.07.79) C07c-29 C07c-33/02 C07c-67/08 C07c-69/14

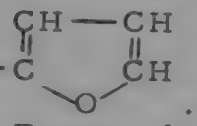
Prepn. of monoterpene acetic esters of formula (I) or (II), useful as flavourants comprises reacting an unsatd. alcohol of formula (III) with lead tetraacetate.


$R_1\text{-C(OCOCH}_3\text{)(CH}_3\text{)-CH=CH}_2$ (I)

$R_1\text{-C(CH}_3\text{)=CH}_2\sim\text{CH}_2\text{OCOCH}_3$ (II)


$R_1\text{-C(CH}_3\text{)(R}_2\text{CHOH)-C=CH}_2$ (III)

(R_1 is 4-methyl-3-pentenyl, 4-methyl-4-pentenyl or 4-methyl-2,4-pentadienyl; R_2 is H, $-C_nH_{2n+1}$ (n = 1-7), $-C_nH_{2n-1}$ (n = 2-7), phenyl opt. substd. by CH_3, C_2H_5, halogen, $-OCH_3$ or $-(CH_3)_2$; -CH=CH-Ph or



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Prepn. of monoterpene alcohols useful as raw material for synthesising vitamin A, carotene, vitamin E, vitamin K, etc. partic. linalool, geraniol or nerol, 3,7-dimethyl-1,7-octadienol-3 or 3,7-dimethyl-2,7-octadienol-1; or 3,7-dimethyl-1,5,7-octatrienol-3 or 3,7-dimethyl-2,5,7-octatrienol-1, comprises hydrolysing the unsatd. acetic ester (I) or (II).

The reaction of (III) and lead tetraacetate is conducted in a solvent, e.g. naphtha, petroleum ether, cyclohexane, benzene, etc. at -20° to 100°C, pref. 10-80°C for 10 min.-20 hrs. 29.12.77 as 159523 (5pp140).

MITC ★ D23 64081B/35 ★J5 4092-947
15-Methyl-bi:cyclo(10.3.0)penta-deca-1(12)-en-13 one prepn. - by reacting cyclo-decene with an unsatd. acid over poly:phosphoric acid, useful as intermediate for perfumes
MITSUI PETROCHEM IND KK 28.12.77-JA-157325
E15 (23.07.79) C07c-49/54

15-Methyl-bicyclo[10,3,0]pentadeca-1(12)-en-13-one (I) is prepd. by reacting cyclodecene (II) with α, β-unsatd. carboxylic acid (III) at 35-50°C over polyphosphoric acid.

(I) is useful as synthetic intermediate for muscone or natural perfumes and is obtd. in high yield selectively by adopting a specific temp. Defects of known methods including low yields are overcome.

(III) includes acrylic acid, α-ethylacrylic acid, crotonic acid and β-ethylacrylic acid. A mixt. of phosphorus pentachloride and orthophosphoric acid may be available in lieu of polyphosphoric acid, because the former is convertible into the latter. 28.12.77 as 157325 (3pp104).

FRIT- ★ D23 64169B/35 ★NL 7901-164

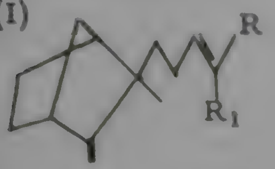
Beta:santalol, beta:santalene, di:hydro beta:santalol cpds., prepn. - by e.g. reacting camphene with manganese tri:acetate or haloacetic acid, treating with acid, reducing, etc.

FRITZSCHE DODGE & C 14.02.78-US-877759

E15 (16.08.79) A61k-07/46 C07c-13/40 C07c-31/13 C07c-33/05 C07d-315

In the prepn. of cpds. of formula (I) where R and R_1 are H or low alkyl, either (a) camphene is first reacted with Mn triacetate or a haloacetic acid in the presence of an alkali metal halide or (b) camphene is oxidised to camphene oxide (II) and the (II) is reacted with an anion contg. a gp. which makes possible the formation of a lactone- or iminolactone bridge to form β-(2-exo-hydroxy-3,3-dimethyl-2-norbornyl)-propionic acid γ-lactone (III) and the endo isomer.

(I)



Theprod. from the first stage is treated with an acid to cause intramolecular rearrangement to β-(3-exo-hydroxy-endo-2,3-dimethyl-2-norbornyl)-propionic acid δ-lactone (IV). The (IV) is reduced with a metal hydride to form β-(3-exo-hydroxy-endo-2,3-dimethyl-2-norbornyl)-propanol-hemiacetal (V). The (V) is then reacted with an alkylidene-trisubstituted phosphorane and the prod. is dehydrated to form the (I).

The process allows prodn. of β-santalene, cis- and trans-β-santalol, dihydro-β-santalol, tetrahydro-β-santalol and related cpds. from camphene. The prods. are useful intermediates and as ingredients in perfumes e.g. to impart sandalwood fragrance. 14.2.79 as 001164 (21pp513)

WOOL= ★ D23 64360B/35 ★SU-633-819

Primary wool treatment aq. waste purificn. - involves treatment with polyethyleneimine and separation of solids

WOOL IND RES INST 08.07.74-SU-043081

F01 (D15) (26.11.78) C02c-05/02

Aq. effluent from a primary wool treatment process is purified by treatment with a polyethylene-imine followed by centrifuging to separate the resulting solids.

The method is quick and effective; the need for lengthy settling periods is avoided.

Nazarov B.G., Teternikov L.I., Filatov E.Ya., et al

Bul. 43/25.11.78 8.7.74 as 043081 (2pp314)

SYLU ★ D23 64634B/35 ★US 4164-505

Conjugating non-conjugated unsatd. fatty acids - by heating with aq. alkali metal hydroxide at about autogenous pressure, giving prod. with controlled cis-trans to trans-trans ratio

SYLVACHEM PTY LTD 08.07.77-US-814139

A41 E17 G02 (14.08.79) C09f-07/08 C11c-03/14

A feedstock contg. unconjugated unsatd. fatty acids is (1) continuously charged, along with alkali metal hydroxide and water, into a flow reaction zone maintained under at least autogenous pressure; (2) heated in the zone to 200-370°C; (3) continuously with drawn from the zone when the unconjugated fatty acid value of the prod. stream is practically zero and the cis/trans to trans/trans fatty acid ratio is 0.1-50:1; (4) acidulated to spring the crude fatty acid prod.; and (5) treated to recover this prod.

A continuous flow process is provided for conjugating unconjugated unsatn. of fatty acids in which the cis/trans to trans/trans ratio of the conjugated fatty acid prod. is monitored during the reaction and such ratio of the crude prod. is controlled thereby. The process is also extremely efficient and rapid. The process is esp. for treating linoleic and linolenic acids to give conjugated fatty acids which are useful in the mfr. of alkyd paints, lacquers, varnishes, drying oils and waxes, because of the superior drying properties and good performance. 8.7.77 as 814139 (4pp914)

KAOS D23 81321A/45 =US 4164-506

Lower alcohol ester(s) of fatty acids prodn. - to give oils and fats of improved colour and improved recovery of high quality glycerine

KAO SOAP KK 17.03.77-JA-029709

*E17 (14.08.79) *J53114-806 C11c-03/02 + C09f-05/08*

Lower alcohol esters of fatty acids are produced from an unrefined fat contg. impurities including free fatty acids, polypeptides and phospholipids. The free acids are first esterified by reaction with lower alcohol in the presence of an acid catalyst. The amt. of lower alcohol present at the end of this reaction exceeds that which can be dissolved in the fat so that a two-phase prod. is obtd. comprising (1) the fat phase and (2) the lower alcohol phase which contains dissolved impurities.

The lower alcohol layer is removed to leave a refined fat. Lower alcohol and alkali catalyst are then added to the fat and interesterification, is effected to form lower alcohol esters of the fatty acids in the fat.

The fatty acid lower alcohol esters have good guality and colour and in addn. a good level of recovery of the by produced glycerol (also of high quality) can be obtd. 9.3.78 as 884835(5pp945)

See Also

D16 J7 9022515

D24: SOAP; SOAP DETERGENTS

NOTHING TO REPORT

D25: OTHER DETERGENTS

ICIL ★ D25 63152B/35 ★BE-874-348

Quat. ammonium cpd. mixt. used as softening agent - in compsns. for treatment of textile materials

IMPERIAL CHEM INDS LTD 24.02.78-GB-007461

E16 F06 (21.08.79) C07c D06m

A softening agent for textile materials consists of a mixt. of quat. ammonium cpds. of formula $R_1R_2R_3R_4N^+X^-$, where X is a quat. anion e.g. chloride, bromide, iodide or methylsulphate; R_1 and R_2 are 13-19C pref. 13-15C alkyl radicals, both straight chain and branched, the degree of branching being 30-70%; R_3 and R_4 are 1-4C alkyl radicals. 70 wt. % softening agent dissolved in an alcoholic solvent can be prepd. A dispersion of 1-20 pref. 1-4 wt. % of the softening agent in water can be also be obtd.

Textile materials treated with this softening compsn. have a softness at least as good as that produced by conventional softening prods., and better re-wetting properties. 21.2.79 as 874348 (9pp1319)

UNIL ★ D25 63167B/35 ★BE -874-420
Sodium aluminosilicate aq. suspension for detergent mfr. - is stabilised with nonionic surfactant and water soluble salt
UNILEVER NV 02.03.78-GB-008373
E33 (23.08.79) C11d

The suspension contains 25-60, pref. 30-50 wt. % (of the anhydrous base) of a sodium aluminosilicate ion exchanger 0. 5-10, pref. 1-5 % of a nonionic detergent cpd.; and 0. 2-15, pref. 0. 5-10% of a compatible water-sol.. salt.

The aluminosilicate is pref. zeolite A or X or a mixt. of these, or an amorphous cpd. of formula 0. 8-1. 5 Na_2O. Al_2O_3. 2-3 SiO_2. The nonionic detergent is pref. the condensation prod. of 1 mole 12-16C alkanol and 7-11 moles ethylene oxide. The salt is pref. a Na salt and the anion is pref. polyvalent Na_2SO_4 and/or Na_2CO_3 are partic. pref.

Other constituents are added to the suspension, which is then dried to form a detergent compsn. 23. 2. 79 as 874420 (13pp1331)

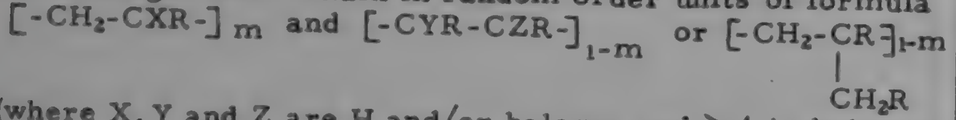
HENK D25 07211T/05 =DS 2035-845
Low foaming washing powders - contg alkylbenzene sulphonic acid salt,alpha alkene sulphonates and soaps
HENKEL KG AUF AKTIEN 18.07.70-DT-035845
*E12 (23.08.79) *NL7108-514 C11d-01/86*

Low-foam washing agent contains (a) 1 pt. wt. of Na or K salts of straight chain alkylbenzene sulphonic acid contg. 8-14C alkyl gps, of which $>$ 70% is 10-13C alkyl (b) 0. 2-0. 5 pts. wt. of Na or K salts of straight chain α-olefin sulphonates contg. 15-18C alkyl gps., (c) 0. 2-3 pts. wt. of a Na or K soap of which 0-60 wt. % is satd. 12-16C fatty acid, 20-60 wt. % satd. 18-20C fatty acid 5-50 wt. % satd. 22-24C fatty acid and 0-50 wt. % mono- or poly unsatd. 18C fatty acid and (d) 2-20 pts. wt. non-surface active builder salts (I).

Salts (I) are Na or K polymerphosphate, carbonate or silicate or Na or K salts of complex forming aminopolycarboxylic acids and high molecular polycarboxylic acids. 18. 7. 70 as 035845 (7pp068)

FARH D25 58439U/40 =DS 2212-623
Detergent builders - prepd by hydrolysis of halogen-contg copolymers
HOECHST AG (KNAP) 16.03.72-DT-212623
*A97 (23.08.79) *DT2212-623 C11d-03/37*

Builders for cleaning and washing agents are oligomers and/or polymers contg. carbonyl and hydroxy gps. which may be lactonised and which are obtd. by hydrolysis of halogen-contg. polymers (I). Polymers (I) contain 5-60 wt. % halogen and contain in random order units of formula



$$[\text{-CH}_2\text{-CXR-}]_m \text{ and } [\text{-CYR-CZR-}]_{1-m} \text{ or } [\text{-CH}_2\text{-}\underset{\underset{\text{CH}_2\text{R}}{|}}{\text{CR}}\text{-}]_{1-m}$$

(where X, Y and Z are H and/or halogen and $\geqslant$1 is halogen; R is carboxyhalogen, carboxyl, ester, nitrile or anhydride and the mole fraction m is a number between 0 and 1).

Polymer I (relative viscosity of 4 wt. % aq. soln. at 25°C is 0. 1-5) is hydrolysed in the warm with at least the stoichiometric amt. of water to convert the halogen atoms to hydroxyl gps. and opt. carboxyhalogen, ester, nitrile or anhydride gps. to carboxyl gps. A suitable polymer is prepd. from chloromaleic anhydride and α-chloroacrylic acid. 16. 3. 72 as 212623 (8pp068)

BADI D25 34111X/19 =DS 2449-354
Low-sudsing cationic dish-washing detergent formulations - contain alkyl orthophosphates which also act as disinfectants
BASF AG 17.10.74-DT-449354
*E11 (23.08.79) *DT2449-354 C11d-03/36*

Mono(8-30 C) alkyl orthophosphates or their mixts., opt. contg. the corresp. di- or trialkyl phosphates, (0-50 wt. %) are used as foam inhibitors in cationic surfactant compsns. 17. 10. 74 as 449354 (4pp047)

HENK D25 48004A/27 =DS 2658-575
Rinsing compsn. with stiffening and brightening effect - contg. quat. ammonium salt and vinyl copolymer with free carboxy gps.
HENKEL KG AUF AKTIEN 23.12.76-DT-658575
*A87 E19 F06 (23.08.79) *DT2658-575 C11d-01/62*

Finishing and stiffening agent for final rinsing is an aq. dispersion contg. (a) 1-12 wt. % of $\geqslant$ 1 high molecular quat. ammonium salt contg. two 14-22C aliphatic hydrocarbon gps and (b) 1-14 wt. % of a copolymer of vinyl ester (s) and mono- and di-carboxylic acid(s) which cont free carboxyl gps. The copolymer was made using 0. 5- wt. % (based on monomers) polyacrylamide as protective colloid and still contains the polyamide. The total amt. cpds. (a) and (b) is 5-15 wt. %.

The textiles treated with this agent have improved so ness and feed . Copolymers of vinyl acetate and croton acid may be used. 23. 12. 76 as 658575 (5pp068)

BOEH ★ D25 63335B/35 ★DT 2807-3
Foamable compsn. for cleaning heating elements - comprises so of surfactant and gas-evolving cpd. in water
BOEHRINGER C H SOHN 21.02.78-DT-807329
(23.08.79) C11d-03/10

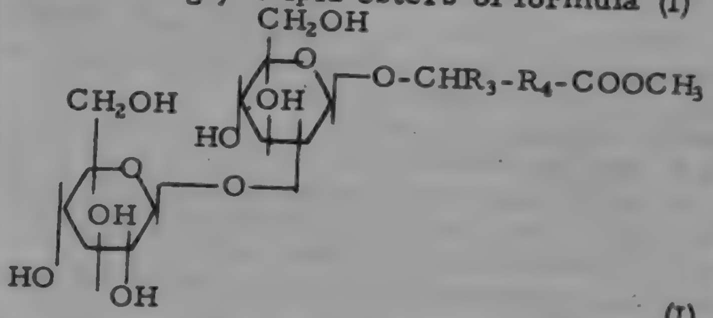
Foamable compsn. consists of a soln. of water, surfactants (I), gas-evolving cpds. (II) and opt. foam stabiliser and corrosion inhibitors, in which the foam exists for lo enough for it to penetrate without any significant amt. of the foam draining off.

Pref. the ratio (I):(II) is 1:5-15(10:10-12). The comps is pref. formulated as an aerosol and may also contain a catalytic and/or oxidative combustion promoter.

Used for cleaning heating elements on the side facing the fire. Solns. are easier to apply than the solns. of DT.1810424. 21.2.78 as 807329 (7pp1251).

KAOS ★ D25 63397B/35 ★DT 2905-25
Glycolipid methyl ester prodn. for sophorolipid - by drying wit poly:ol, then reacting with methanol, with surfactant and wax-lik properties
KAO SOAP KK 17.02.78-JA-017401
B03 C02 E13 (D21) (23.08.79) C07h-15/06 C11d-01/66

Prodn. of glycolipid esters of formula (I)



(I)

(where R_3 is H or CH_3; R_4 is opt. unsatd. 12-16C hydrocarbyl when R_3 is H, or op unsatd. 11-15 C hydrocarbyl when R_3 is CH_3) comprises first adding $>$1 polyvalent alcohol $HO(CHR_5CH_2O)_mR_6$ (III) or $HO(CH_2.CHOH.CH_2O)_nR7$ (IV) (R_5 is H or CH_3; R_6 and R7 are H or 1- C alkyl; m and n = 1-6) to hydrated sophorolipid (II) then distilling out water under reduced pressure. The resulting (II)-polyol mixt. is then subjected to methanolysis-methylation by reacting with methanol in presence of a strong acid (0. 05-0. 5N), pref. at $<$45 °C.

(I) have surfactant (emulsifier) activity and wax-like properties. They are useful e. g. in cleaning compsns., paints, printing, metal or fibre processing, cosmetics (they also show skin-protecting action), pharmaceuticals, agricultural chemicals, etc. 12.2. 79 as 905252 (19pp1251)

CIBA D25 30361A/17 =GB 1551-633
Prepn. of fine beta-type crystals of optical brighteners - of bis-triazinyl:amino-stilbene type, by milling with dispersant soln., for use in detergents
CIBA GEIGY AG 14.10.76-DT-646273
*A97 E23 (30.08.79) *DT2646-273 C07d-413/14*

Fine crystalline fluorescent brighteners of the bis-triazinyl amine stilbene series in the β-crystal form are mfd. by grinding in an aq. medium. The process comprises mixing water-contg. fluorescent brightener filter cake in the β and/or α crystal form with an aq. dispersant soln. at 70-85°C and grinding at this temp. in the absence of phosphates, silicates and organic solvents.

Pref. the brightener is disodium-4, 4'-bis-(4''-anilino-6''-morpholino-s-triazin-2''-ylamino)-2, 2'-stilbene disulphonate. 13. 10. 77. as 042731 (3pp974)

UNIL ★ D25 635008/35 ★GB 2014-507
Mfg. striped detergent bars - with stripes forming sinusoidal curves on curved detergent surface
UNILEVER LTD 19.02.79-GB-005732 (20.02.78-GB-006653)
(30.08.79) B29f-03/12 C11d-13/18

A continuous log of longitudinally striped mass is extruled from a nozzle and this is subjected to a torque at a downstream station. The log is subsequently cut into billets which are stamped to form bars. The applied torque is reversed to provide a reversing spiral striping. The bar length is such that it includes at least a quarter of a cycle of the reversing spiral along its length. 19.2.79. as 005732 (4pp295)

IOY D25 93073X/50 =J7 9021-842

etergents for dishwashing - contain fatty oils and fats, especially astor oil deriv. for mildness to hands

LION FAT & OIL KK 17.04.75-JA-046746

*E12 (02.08.79) *J51122-108 C11d-03/20*

Detergents, partic. for cleaning kitchen utensils, contains fatty oils and fats contg. hydrophilic radicals such as the fatty oils and fats of relatively high unsaturation degree or contg. hydroxyl radicals in the molecule e.g. castor oil, olive oil, colza oil, etc. into which PO_4M, PO_3M_2 or BO_3M_2 radical has been introduced or the fatty oils and fats epoxidised and charged with SO_3M_2 PO_4N_2, PO_3M_2, BO_3M_2, COOM or $(OCH_2CH_2)_nOH$ radical (M=monovalent cations forming hydrophilic salts; n= 0 or 1-10).

Use of castor oil as the raw material oil is pref. The amts. of fatty oils and fats added to the detergent compsns. are 0.4-0.5 wt.%. These detergents, even when used at 40°C, do not make hands dry and rough. 17.4.75 as 046746 C11d-3/20 (2.8.79) LION FAT & OIL KK (5pp) (J51122108)

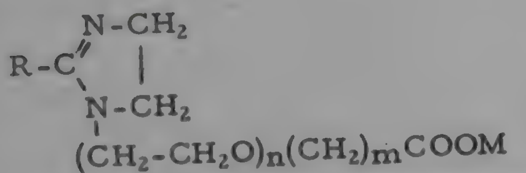
KAOS D25 82166X/44 =J7 9022-451

Antiredeposition agent used in dry cleaning - comprises imidazoline deriv. in a synthetic solvent

KAO SOAP KK 17.01.75-JA-007510

*A87 E12 F06 (A25 E16) (07.08.79) *J51105-310 +C11d-01/88*

An anti-redeposition agent for dry cleaning, showing excellent efficiency in cleaning comprises: 1-(carboxyalkylpolyoxyethylene ether)-2-alkyl-imidazoline of formula (I):-



(I)

(where R is alkyl or alkenyl of 12-18C; n is 1-10; m is 1-4; M is H, sodium potassium, ammonium) employed as available component. The anti-redeposition agent is incorporated 0.05-10 wt.% pref. 0.2-0.5 wt.% of synthetic solvent such as perchlorethylene dichlorodifluoroethylene, etc., for use in cleaning. It takes effect only when a synthetic solvent is used. 17.1.75 as 007510 C11d-1/88 (7.8.79) KAO SOAP KK (3pp)(J51105310)

ANON ★ D25 64180B/35 ★RD-184-012

Detergent blend of paraffin sulphonate(s) and alkyl-sulphate(s) - with non-impaired physical properties e.g. viscosity, clear- and/or kraft points

ANONYMOUS 20.07.79-RD-184012

*E17 (10.08.79) C11d-00/**

Paraffin sulphonates (I) can be blended with alkylsulphates (II) opt. in the presence of additional detergents (III) such as non-ionic, anionic or ampholytic detergents without impairing the physical characteristics of the respective blend components (e.g. viscosity, clear point and/or Kraft point). (III) may be present in amt. of 50 wt %.

Suitable (I) are 10-20C paraffin sulphonates, esp. alkali metal, NH_4 or amine salts of 14-17C paraffin sulphonates. Suitable (II) are (i) prim. alkyl sulphates such as metal, NH_4 and amine salts of 10-20C alcohol sulphates, e.g. Na lauryl sulphates and (ii) sec. alkyl sulphates derived from 10-20C olefins, pref. based on 16C/18C α-olefins and/or blend of 15 and 16C internal olefins. (966)

FMCC ★ D25 64578B/35 ★US 4164-394

Low temp. bleaching of stained or soiled fabrics - using peroxy bleaching cpd. activated with acyl phosphonate

FMC CORP 10.10.78-US-949837

E11 F06 (E34) (14.08.79) D06l-03

Stained and/or soiled fabrics are low temp. bleached by treating them with an aq. peroxygen bleaching soln. having a pH of 6-12 and contg. an acylphosphonate as peroxygen activator.

The peroxygen bleaching soln. can be used at conventional laundering temps. (⩽ 60°C) (cf. ⩾ 85, usually ⩾ 90°C for prior art compsns.), and thus can be used in place of conventional chlorine bleaches.

Pref. the peroxygen cpd. is Na perborate tetrahydrate. Pref. the activator is a dialkyl acylphosphonate in which the alkyl gp. contains 1-18C and the acyl gp. is 1-18C alkanoyl or 6-10C aroyl. 10.10.78 as 949837 (7pp914)

FMCC ★ D25 64579B/35 ★US 4164-395

Peroxide fabric bleach compsns. contg. sulphonyl oxime activator - to increase activity at low temps.

FMC CORP 16.10.78-US-952026

E19 F06 (E34) (14.08.79) C11d-07/18 D06l-03/02

Low temp. bleaching of stained or soiled fabrics is carried out using a soln. of peroxygen bleaching agent of pH 6-12 contg. a sulphonyloxime as activator. Pref. the mole. ratio of peroxide to activator is 20:1 to 1:3. Also claimed are bleaching compsns. contg. peroxy cpd., sulphonyloxime activator and buffer salts to ensure the soln. has pH 6-12, and detergent compsns. contg. 5-50 wt.% of the above bleaching compsn., 5-50 wt.% detergent and 1-60 wt.% builder.

The sulphonyloximes lower the temp. at which the bleaches are effective. 16.10.78 as 952026 (7pp955)

HENK D25 33405A/19 =US 4164-430

Machine washing and cleaning of solid articles - using baths with opt. low phosphate contents and powdered cation exchangers

HENKEL KG AUF AKTIEN 01.12.76-DT-654353

*A97 +P43 (A91) (14.08.79) *BE-860-341 B08b-07/04*

Solid soiled materials are machine washed by withdrawing and recycling the wash liquor in a washing area through a water-insol. particulate cation exchange copolymer of swelled average particle size 10-2000 µ and of Ca binding power ⩾ 2 mVal/gm. The copolymer is a (graft) copolymer derived from unsatd. carboxylic acids, and is maintained out of contact with the solid-soiled materials in a countercurrent filter (I) separate from the washing area.

The wash liquor is passed through a lint filter before passing through (I) and then recycled to the washing area to wash the materials. The total wash liquor is recycled through the cation exchange polymer, continuously or intermittently from the washing area and back ⩾ 5 times during the washing process.

The flow direction of the wash liquor through (I) is reversed repeatedly during a wash period of 30-90 mins., at intervals of 2-15 mins. The copolymer softens the washing liquor, which contains, 0.2-10 g/litre of other soluble washing and cleaning cpds. including 0.05-2 g/litre of water-soluble Ca binding sequestrant.

Used esp. for washing textiles. Process prevents clogging of the filter pores. 16.11.77 as 852029 (13pp997)

CHEM- ★ D25 64617B/35 ★US 4164-477

Conc. cleaning compsn. for treating mould and mildew - includes carboxylic acid, surfactant, zinc cpd. fungicide, wetting agent and water

CHEM-X3 INC 02.10.78-US-947537

C03 E19 (E32) (14.08.79) C11d-03/06 C11d-07/56

A conc. cleaning compsn. comprises (1) 82.4-97.0 (wt.)% water, (2) 2-10% acetic, formic, propionic, n-hexanoic, lactic, citric, n-butanoic, n-pentanoic, trimethylacetic, methosyacetic, cyanoacetic, chloroacetic or tartaric acid, (3) 0-0.8% of penetrant chosen from alkanolamide detergents and Na salts of EDTA, (4) 0-0.8% of Na tripolyphosphate, (5) 0.1-10% of surfactant chosen from high alkyl mononuclear aryl sulphonates, alkyl polyethoxamer deter-gents, alkanolamine detergents and alkanolamide detergents, (6) 0.2-2.0% of fungicide chosen from Zn-sulphate, -bromate, -acetate, -bromide, -chloride. -iodide, -nitrate, and -chlorate, (7) 0.05-1.0% of wetting-dispersing agent consisting of the condensn. polymerisation prod. of polyglycerol with phthalic anhydride, and (8) 0-2.0% of Na metasilicate degreasant.

The compsn., when added to water and an oxidising agent, produces a reaction mixt. capable of killing and removing and preventing the regrowth of mould and mildew. It can be used on a variety of surfaces including stone.

brick, stuces, exterior wood, exterier painted surfaces, tile, ceramics, metal, plastics, automobile tyres, shower walls, refrigerators and boats. It can also be applied easity, e.g. using a garden sprayer. Typically surfaces can be protected for up to 2 years. 2.10.78 as 947537(6pp914)

LIOY D25 69287A/39 =US 4164-478

Detergent granules contg. surfactant, silicate and carbonate builder - which are coated with finely divided, inorganic, water-insoluble cpd.

LION FAT & OIL KK 18.03.77-JA-029269

*E37 (14.08.79) *DT2811-543 C11d-11 +C11d-01/12 C11d-03/12*

Detergent granules contg. 10-40 wt.% of an organic water-sol., anionic synthetic surface active agent, 4-20 wt.% of a water-sol. alkali metal silicate and 2-40 wt.% of a water-sol. alkali metal carbonate, are treated such that the reaction between the alkali metal silicate and the CO_2 in the ambient atmos. is inhibited.

The treatment comprises mixing 0.3-5 wt.pts. of a powder of water-insol. MgO, $Al(OH)_3$, $CaCO_3$, heavy white carbon and titanium oxide with the preformed granules, the granules being of average particle dia. ⩽ 1.5 µ. The powder is thus adhered to the surfaces of the granules in the form of an external covering.

The compsn. reduces the adhesion of water-insol. substances onto washed cloth at the time of washing.
9.3.78 as 884837(3pp931)

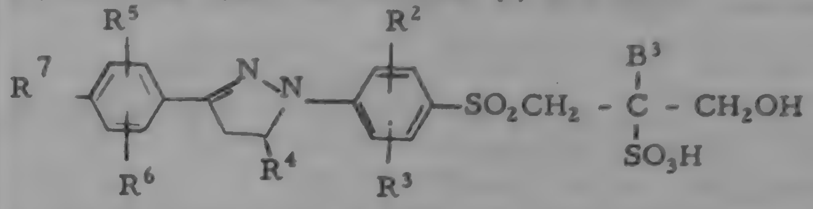
BADI D25 22679Y/13 =US 4164-500

Novel pyrazoline cpd.

BASF AG 11.11.75-DT-550548 (31.07.75-DT-534180)

*A60 E13 F06 (14.08.79) *J52021-031 C07d-231/06*

Pyrazoline cpds. of formula (I) are new.



(I)

In the formula B^3 is H or 1-4C alkyl. R^2, R^3, R^5, R^6 and R^7 are H, Cl, Br, F, (m)ethyl or (m)ethoxy. R^4 is H, 1-4C alkyl, benzyl, phenethyl, phenyl opt. substd. by Cl, Br (m)ethyl, (m)ethoxy, -CN or hydroxysulphonyl. Pref. B^3, R^2, R^3, R^4, R^5 and R^6 are H and R^7 is Cl.

The cpds are used as optical brighteners for cellulose esters and partic. for acrylonitrile polymers, wool and polyamides, esp. in liquor dyeing. Brilliant white effects are obtd. having good fastness properties. In addn., the cpds. are used in detergents for brightening paper.
21.4.78 as 898629 Div.ex 4129563 (+6.8.75-DT-535095) (+6.7.76-US-702975)(33pp945)

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L   A93  *DT 2602-948
   Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L   A93 L02(A21)  *DT 2602-947
   Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
    M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE -832-423   X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF 7502-292   X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or # sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97D15M14
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                            49862X/26  *US 3963-654
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                       49433X/26  *DT 2554-327
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                            48076X/26  *CA -990-668
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX 1

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4090-150
2-De:oxy-4-acyl or alkyl fortimicin derivs. - 49412B/27

*ACAD= 04.06.74 ACAD COMMUNAL WATER D15 *SU -633-815
Effluent cleaning by activated sludge - 64356B/35

*AFAN/ 26.03.73 AFANASIKOV YU I D15 *SU -633-817
Perforated plate for effluent cleaning - 64358B/35

AGEN 09.06.72 AGENCY OF IND SCI TECH A97 D15 F06 J01 =J7 9022-430
Heavy metals from waste water removal - 68487V/39

*AGEN 28.12.77 AGENCY OF IND SCI TECH A41 D15 E35 G06 (E16) *J5 4091-962
Cyanogen cpd. recovery from waste water - 63933B/35

AIRR 02.04.75 AIRCO INC D15 F09 J04 =CA 1060-590
Controlling gas supply to dissolution device - 77367X/41

*AJIN 27.12.77 AJINOMOTO KK B05 D16 E16 *J5 4092-692
Fermentative prodn. of L-threonine - 64045B/35

AJIN 28.12.77 AJINOMOTO KK B02 C02 D16 =J5 4092-695
Purine arabinoside(s) enzymatic prodn. - 16275B/09

*AJIN 29.12.77 AJINOMOTO KK B02 D16 *J5 4092-694
Purine arabinoside-5′-mono:phosphate prepn. - 64047B/35

*AKER- 20.02.78 AKERS MEK VERKSTED D15 H01 J01 *GB 2014-467
Water filter for removing microorganisms, e.g. marine algae - 63493B/35

ALBR 22.12.77 ALBRIGHT & WILSON LTD D25 E13 =J5 4092-960
Purificn. of alkyl imidazoline surfactants - 49529B/27

ALBR 13.02.78 BUSH BOAKE ALLEN L D13 =NL 7901-076
Dehydrating organic tissues esp. foods - 59829B/33

ALFA 31.01.78 ALFA LAVAL AB D16 E17 =BR 7900-321
Continuous prodn. of ethanol - 60966B/33

*ALFA 24.04.78 DE LAVAL SEPARATOR D15 J01 *US 4164-317
Sludge centrifuge with automatic sludge discharge - 64574B/35

*ALPI- 30.05.78 ALPI MILCHIND REG G D13 *OE 7803-909
Whey product prepn. - B/35

*AMAN 28.12.77 AMANO PHARM KK D17 (D16) *J5 4092-637
High maltose-content syrup prodn. - 64036B/35

AMCA 29.12.76 AMERICAN CAN CO A97 D22 F09 (A18 A23 A96) #US 4164-595
Pre-moistened toilet tissue prepn. from nonwoven fabric - 67132A/38

AMCY 07.02.77 AMERICAN CYANAMID CO A91 D15 (A14 A26) =US 4164-521
Poly:anionic and poly:cationic polymer mixt. - 59073A/33

*AMCY 21.10.77 AMERICAN CYANAMID CO A96 D21 G04 *US 4164-562
Aerosol hair spray contg. aliphatic hydrocarbon propellant - 64657B/35

AMMA 14.01.78 AMF INC D18 =BR 7900-212
Reconstituted tobacco from suspension of tobacco powder in adhesive - 37210B/20

AMMA 14.01.78 AMF INC D18 =DK 7900-135
Reconstituted tobacco from suspension of tobacco powder in adhesive - 37210B/20

AMMA 14.01.78 AMF INC D18 =SW 7900-296
Reconstituted tobacco from suspension of tobacco powder in adhesive - 37210B/20

*AMST- 11.11.77 AMERICAN STERILIZER D22 *US 4164-538
Steam sterilising fabrics after conditioning cycle - 64646B/35

ANIE- 08.01.75 ETAB ANI B04 C03 D16 =CA 1060-368
Products with biological activity - 42037X/23

ANIS 23.03.76 ANIC SPA D15 M25 =OE 7702-020
Treating waste water to remove transition elements, esp. vanadium - 68835Y/39

ANIS 06.12.77 ANIC SPA B04 D21 =J5 4092-634
Anticariogenic dentifrice compsns. - 44323B/24

*ANON 20.07.79 ANONYMOUS D25 E17 *RD -184-012
Detergent blend of paraffin sulphonate(s) and alkyl-sulphate(s) - 64180B/35

*APOT 06.10.76 APOTHEKERNES LAB FU A/S B04 C03 D16 *US 4164-572
Zinc bacitracin compsn. pptd. from fermentation broth - 64660B/35

ARBE 21.01.77 ARBED SA D15 E14 =US 4164-469
Treating waste water to remove phenol - 38546A/22

*ARIE- 16.11.77 ARIES E SA D13 *FR 2409-010
Low calorie dairy prod. esp. yogurt, milk, mousse or cheese - 63449B/35

ASAH 28.12.74 ASAHI KASEI KOGYO A97 D16 =CA 1060-257
Adsorption agents for polyphenols in wines, beers, juices - 54514X/29

*ASAH 12.09.77 ASAHI CHEMICAL IND KK D16 J01 *J5 4043-181
Sepn. of e.g. microbes, cells or inorganics from liq. - 63550B/35

*ASAH 30.12.77 ASAHI CHEMICAL IND KK D16 (D15) *J5 4092-683
Recovering heat of fermentation - 64040B/35

*ASAH 30.12.77 ASAHI CHEMICAL IND KK C04 D16 (D15) *J5 4092-684
Deodorisation of organic cpds. e.g. sewage sludge etc. - 64041B/35

ASAH- 05.06.74 ASAHIMATSU KORIDOFU D13 =J5 0155-661
Mfg. cheese-like food from soybean - 64138B/35

*ASAH- 05.06.74 ASAHIMATSU KORIDOFU D13 *J7 9022-498
Mfg. cheese-like food from soybean - 64138B/35

ASAI- 22.11.77 ASAI GERMANIUM RESE D21 E12 =FR 2409-048
Cosmetic skin treatment formulation contg. an organo germanium cpd. - 40915B/22

*ASEN/ 22.02.78 ASENDORF E D15 J01 *DT 2807-526
Excrement disposal from medium-sized animal stalls - 63357B/35

ASKO- 16.11.77 ASKO-UPO OY D15 J01 =SF 7703-467
Rotary biological filter - 39358B/21

AURA/ 19.11.75 AURACHER W D22 =CH -612-345
Cylindrical elastic bandage for limbs and joints - 21965Y/13

BADI 22.08.74 BASF AG C03 D25 E19 (D21) =CA 1060-444
Beta-sulpho-propionic acid cpds - 19005X/11

BADI 17.10.74 BASF AG D25 E11 =DS 2449-354
Low-sudsing cationic dish-washing detergent formulations - 34111X/19

BADI 31.07.75 BASF AG A60 D25 E13 F06 =US 4164-500
Novel pyrazoline cpd. - 22679Y/13

BADI 02.07.77 BASF AG A97 C03 D13 =OE 7804-786
Feed pellet prepn. from feed flours - 02298B/02

BADI 19.11.77 BASF AG C03 D13 =FR 2409-014
Feedstuff additive for monogastrenes e.g. piglets - 40773B/22

BADI 19.11.77 BASF AG C03 D13 =SF 7803-457
Feedstuff additive for monogastrenes e.g. piglets - 40773B/22

BADI 23.02.78 BASF WYANDOTTE CORP A18 D25 G02 (A25 D15) =BE -374-302
Aq. emulsion of finely divided hydroxyl-contg. polymer - 80060A/44

BAKP 15.02.78 BAKER PERKINS LTD D11 =NL 7901-201
Bowl mixer with rotary and planetary action agitator - 44099B/24

BALA/ 24.02.77 BALAVADZE E M D15 J03 #GB 1551-538
Appts. for automatic control of desalination of electrolyte solns. - 63649A/36

*BALI- 06.07.77 FA FRANZ BALIK D12 *OE 7704-856
Device for removing remnants of meat from bone - B/35

*BARR/ 21.07.76 BARRETH H D16 H09 *FR 2409-305
Small scale automatic energy producing installation for households - 63462B/35

BATT 10.06.77 BATTELLE MEMORIAL C03 D13 =BR 7808-662
Carbohydrate based ruminant feedstuff - 89608A/49

BAUM- 05.10.76 BAUMGARTNER PAPIERS A88 D18 (A11) =US 4164-438
Cigarette filter tips - 27278A/15

BAUM- 15.12.77 BAUMGARTNER PAPIERS D18 F04 =BR 7808-251
Cigarette filters prodn. - 29786B/16

BAUM- 15.12.77 BAUMGARTNER PAPIERS D18 F04 =SF 7803-837
Cigarette filters prodn. - 29786B/16

BAUM- 10.02.78 BAUMGARTNER SA D18 =NL 7900-819
Paper tube for making hand-filled filter tipped cigarette - 44059B/24

BEEC 15.03.75 BEECHAM GROUP LTD B04 D16 =OE 7601-631
Antibiotic MM 17880 from streptomyces olivaceus - 72175X/39

*BEGO- 19.05.78 BEGO BREMER GOLDSCH D21 *OE 7803-652
Dental crown or bridge mfr. - B/35

BENC 12.03.76 BENCKISER-KNAPSACK D15 E11 F06 (F09) #CA 1060-466
N-hydroxyalkyl-aminoalkane-diphosphonic acids alkali metal salts) - 59699X/32

BENY 25.01.78 BENTLEY LABS D22 =BR 7900-377
Implant consisting of collagen coated carbon esp. fibres - 56534B/31

BENY 25.01.78 BENTLEY LABS D22 =GB 2014-475
Implant consisting of collagen coated carbon esp. fibres - 56534B/31

BIKO- 27.04.76 BIKOMA SPEZIAL GMBH D22 =CH -612-086
Tampon for feminine hygiene with recovery thread - 79716Y/45

*BIOR- 29.12.77 BIO-RESEARCH CENTRE D16 *J5 4092-690
Cellulase prodn. using water-soluble carbon source - 64043B/35

BIOT- 07.06.77 GES BIOTECH FORSCHU B04 D16 =DS 2725-751
Acylase catalysis in absence of heavy metals e.g. cobalt - 91594A/51

BLUE- 26.08.77 BLUE WING CORP C03 D13 =FR 2409-013
Protein-contg. feed additive for ruminants - 20301B/11

BOEF 07.12.73 BOEHRINGER MANNHEIM GMBH B04 D16 =US 4164-448
Activating cholesterol oxidase with surfactants - 40938W/25

BOEF 19.04.74 BOEHRINGER MANNHEIM GMBH B04 D16 (B01) =OE 7600-951
3-Keto-delta-5-steroids converted to delta-4 - 74307W/45

*BOEH 21.02.78 BOEHRINGER C H SOHN D25 *DT 2807-329
Foamable compsn. for cleaning heating elements - 63335B/35

BORA- 16.12.77 BORAX HOLDINGS LTD A97 C03 D22 F09 =BR 7806-228
Synergistic wood preservative compsn. - 49370B/27

BOSC 14.01.78 BOSCH-SIEMENS HAUSG D14 =SW 7900-225
Household appliance with grooved spindle for mounting tool carrier 53158B/29

*BOSE- 22.02.78 STADTBACKEREI BOSE D11 *DT 2807-532
Loaf from different kinds of dough - 63359B/35

BOTS/ 02.09.72 BOTSCH B D15 =DS 2243-288
Sewage tank bottom cleaning mechanism gantry - 21258V/12

*BOUT- 22.11.77 BOUTON & BRIQUET D11 *FR 2409-006
Bakery proving chamber with cool air to delay fermentation - 63446B/35

*BOVI/ 17.02.78 BOVINGLOH A C03 D13 *DT 2806-740
Mixing fodder constituents - 63288B/35

BOYD/ 09.11.76 BOYDEN J S A96 D22 F07 #J7 9022-523
Support structure for an orthopedic cast etc. - 88495X/47

*BRAM/ 17.02.78 BRAMS S A31 D14 J02 *DT 2905-490
Drum for mixing and delivering solid materials - 63400B/35

*BRIM 26.04.76 BRISTOL MYERS CO A60 D21 E14 G02 *CA 1060-475
4-Bis:hydroxyalkyl-acyl:phenone derivs. - 63207B/35

BRPE 22.02.78 BRITISH PETROLEUM LTD D15 H05 #DT 2807-495
Oil removal from oily sludge - 63421A/36

BRTO 25 11 77 BOC LTD D15 #SF 7703-573
Using low-solubility gas to treat liquids - B/32
BUCM 18 12 75 BUCHERGUYER MASCH D15 J02 =OE 7609-346
Aerator in vessel processing fluids tending to foam 47151Y/27
BURR- 10.02.78 BURRUS F J & CIE SA D18 =GB 2014-427
Paper tube for making hand-filled filter tipped cigarette - 44059B/24
BURR- 10 02 78 BURRUS F J & CIE D18 =NL 7900-819
Paper tube for making hand-filled filter tipped cigarette - 44059B/24

CALG 12.12.77 CALGON CORP D15 E16 M14 (E36) =J5 4092-535
Steam condensate corrosion inhibiting system - 47540B/26
*CARN- 25.05.77 CARNATION CO D13 *US 4164-594
Wetting agent contg. lecithin - 64669B/35
CARO 02.12.77 CARBORUNDUM CO D15 E36 J01 =J5 4090-097
Hard, granular, activated carbon for water treatment - 35107B/18
*CAUS/ 22.04.77 CAUSSE R D11 *FR 2409-096
Machine to brush and spool cloth for bakery proving process - 63455B/35
CELL- 13.12.77 CELLCOR CORP CANAD D17 (D13) #SF 7703-770
Continuous starch hydrolysates prepn. using acid starch suspension - 28873A/16
*CENS 21.01.77 CENTRAL SOYA KK D12 *US 4164-589
Meat pumping brine contg. soy isolate - 64667B/35
*CHAJ/ 20.02.78 CHAJUSS D M D13 *DT 2905-007
Edible, fibre-contg. prod. from soybean husks - 63390B/35
CHAR/ 21.11.77 CHARM S E B04 D13 J04 =FR 2409-517
Detection of antibiotics in liquid samples e.g. milk, body fluid - 24010B/13
CHEL 12.07.72 CHEM WERKE ALBERT B02 D16 =J7 9022-517
Prep. of oxoalkylxanthine - 08657V/05
CHEM- 25.11.71 VU CHEM ZARIZENI BRNO D18 F09 =DS 2257-766
Cigarette filter matl. contg. pine - esp. fir-wood bark - 19395W/12
*CHEM- 02.10.78 CHEM-X3 INC C03 D25 E19 (E32) *US 4164-477
Conc. cleaning compsn. for treating mould and mildew - 64617B/35
CHID- 08.05.75 CHIDORI KAISO KK D13 =J5 1135-299
Processing Tosakamodoki seaweed - 64137B/35
*CHID- 08.05.75 CHIDORI KAISO KK D13 *J7 9022-493
Processing Tosakamodoki seaweed - 64137B/35
CHIY 14.02.78 CHIYODA CHEM ENG CO D15 =GB 2014-555
Biological sewage treatment by downward flow through tank - 61765B/34
CHUE- 11.06.75 CHEM FAB UETIKON A97 D15 J01 =CA 1060-591
Selective phosphate removal from aq. solns. - 32880Y/19
CIBA 14.10.76 CIBA GEIGY AG A97 D25 E23 =GB 1551-633
Prepn. of fine beta-type crystals of optical brighteners - 30361A/17
CIBA 00.00.77 CIBA GEIGY AG A91 D15 F09 (A11 F06) =CH -612-201
Purification of waste water with cellulose derivs. - 34475Y/20
CIBA 21.11.77 CIBA GEIGY AG A60 B05 C03 D22 =FR 2409-250
Halogenated 3-hydroxy-di:phenyl ether derivs. - 40883B/22
*CIBA 21.02.78 CIBA GEIGY AG A88 D15 J01 (A11 A14) *DT 2906-334
Semipermeable membrane polymer esp. for reverse osmosis - 63424B/35
*CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) *BE -874-398
Elimination of heavy metal ions from waste waters - 63162B/35
CLEV- 22.11.77 CLEVEPAK CORP D15 =FR 2409-234
Aeration chamber for mixing gas and waste water - 47042B/25
*CLEV- 22.11.77 CLEVEPAK CORP D15 *FR 2409-236
Submerged oxygenation of pumped waste water with compressed gas - 63458B/35
CNSM 24.06.76 CENTRALE SUIKER MIJ NV D15 =OE 7704-503
Anaerobic sewage treatment - 02580A/02
COLG 09.07.75 COLGATE PALMOLIVE CO A96 D22 F07 =CH -612-332
Disposable baby's napkin - 86962X/47
COLG 29.12.75 COLGATE PALMOLIVE CO A96 D22 F07 =CH -612-333
Disposable diaper with box pleat configuration - 03621Y/02
*COMM= 27.04.76 COMMUNL WATER MAINS D15 *SU -633-818
Primary cleaner for liquid effluent - 64359B/35
COOP- 10.12.71 COOPERATIEV CONDENSFAB D13 =DS 2260-119
Casein-based protein fibres - 31541U/22
CORP 21.08.74 CPC INTERNATIONAL INC D13 =CH -612-074
Dry hydrosoluble foodstuff prodn - 03921X/03
CORP 21.11.77 CPC INTERNATIONAL INC A11 D17 =SF 7803-530
Modified starch prepn. esp. using two centrifuge separations - 38989B/21
CORP 12.01.78 CPC INTERNATIONAL INC D17 E13 (D16) =DK 7900-118
Preparing high purity maltose crystals from starch hydrolysate - 52537B/29
CORP 12.01.78 CPC INTERNATIONAL INC D17 E13 (D16) =SW 7900-252
Preparing high purity maltose crystals from starch hydrolysate - 52537B/29
*CORP 09.02.78 CPC INTERNATIONAL INC D17 *GB 2014-578
Dextrose and multi-sugar syrup prodn. - 63510B/35
*CROA/ 17.02.78 CROASDELL D F D12 *DT 2905-998
Separating the cheek muscles of a pigs head - 63417B/35
CROA/ 17.02.78 CROASDELL D F D12 =GB 2014-430
Separating the cheek muscles of a pigs head - 63417B/35

DAGM- 29.07.75 DAGMA DEUT AUTOMATE D15 =OE 7800-581
Carbonated drinks mfr and distribution - 61611X/33
DAIK 08.12.76 DAIKIN KOGYO CO LTD A97 D15 H03 J04 (A18) =US 4164-653
Solvents for extracting oil from water - 44333A/25
*DAIY 21 04 75 DAIYA TOKKYO PROJEC D13 *J7 9022-492
Boiled sweet chestnuts prodn. - 64136B/35
DAIY- 21.04.75 DAIYA TOKKYO PROJEC D13 =J5 1123-859
Boiled sweet chestnuts prodn. - 64136B/35
*DAIY- 21.04.75 DAIYA TOKKYO PROJEC D13 *J7 9022-492
Boiled sweet chestnuts prodn. - 64136B/35
*DASP- 17.02.78 DE DANSK SPRITF A/S D13 E34 *DT 2905-575
Peeling fruit and vegetables - 63401B/35
DASP- 17.02.78 DE DANSK SPRITFABRI D13 E34 =GB 2014-434
Peeling fruit and vegetables - 63401B/35
DEGS 22.04.74 DEUTSCHE GOLD & SILBER A35 D15 E17 (A21) =J7 9022-697
Detoxifying formaldehyde-contg. waste waters - 74359W/45
*DEGS 00.00.76 DEUTSCHE GOLD & SILBER B04 D16 *DT 2807-089
Lipase stabilisation in pharmaceutical preparations - 63318B/35
*DEGS 00.00.76 DEUTSCHE GOLD & SILBER B04 D16 *DT 2807-090
Lipase stabilisation in enzyme preparations - 63319B/35
DEGS 18.11.77 DEUTSCHE GOLD & SILBER D21 M26 =FR 2409-318
Yellow gold alloy - 22149B/12
DEGS 23.12.77 DEUTSCHE GOLD & SILBER D15 =J5 4091-957
Deodorising industrial and urban waste water sludges - 47180B/26
*DEUT/ 15.09.77 DEUTSCHMANN E D15 *OE 7706-632
Well ground water aeration device - B/35
*DOWC 14.03.75 DOW CHEMICAL CO A91 D15 (A26) *CA 1060-592
Flocculating colloidal particles in aq. dispersion - 63209B/35
DOWC 02.12.77 DOW CHEMICAL CO A41 D15 E16 =J5 4090-113
N-Amino-methyl unsatd. carboxamide prodn. - 44350B/24
DSME- 16.11.77 DE SMET EXTRACTI SA D17 J01 =FR 2409-072
Continuous extn. by diffusion into solvent esp. for sugar mfr. - 23370A/13
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =BE -874-153
Sepn. of creatine kinase isoenzyme(s) - 61783B/34
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =GB 2014-582
Sepn. of creatine kinase isoenzyme(s) - 61783B/34
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =NL 7901-181
Sepn. of creatine kinase isoenzyme(s) - 61783B/34

*EAST 17.04.78 EASTMAN KODAK CO D18 E17 *US 4164-393
Preservative for hides in aqueous float - 64577B/35
EBAI 11.03.74 EBARA INFILCO KK D15 =J5 0120-164
Treatment of organic waste liquor - 64108B/35
*EBAI 11.03.74 EBARA INFILCO KK D15 *J7 9022-025
Treatment of organic waste liquor - 64108B/35
*EBAI 28.12.77 EBARA INFILCO KK D15 *J5 4091-966
Waste treatment - 63934B/35
EIKE- 31.08.72 EIKEN KAGAKU KK D16 J04 =J4 9044-798
lacto:dehydrogenase determn. - 64114B/35
*EIKE- 31.08.72 EIKEN KAGAKU KK D16 J04 *J7 9022-119
lacto:dehydrogenase determn. - 64114B/35
*EKOL- 27.01.75 EKOL CORP C03 D16 *US 4164-405
Aerobic thermophilic fermentation of cotton gin waste - 64585B/35
*EKOP- 28.01.78 EKOPERL GMBH D16 H07 *DT 2803-814
Granulate for oil absorption and degradation - 63242B/35
ELED 09.03.73 ELECTRO-CHEMICAL IND KK A87 D22 F06 =J4 9117-139
Liner for baby's diaper - 64093B/35
*ELED 09.03.73 ELECTRO-CHEMICAL IND KK A87 D22 F06 *J7 9021-783
Liner for baby's diaper - 64093B/35
ELIL 08.12.77 ELI LILLY & CO B03 C02 D16 =SF 7803-708
Antibiotic A-40104 fraction A - 93172A/51
ELMQ/ 27.07.77 ELMQVIST O A88 D15 =BR 7808-671
Heat exchanger flow elements comprising plastics foils - 15958B/08
ERBA 09.02.78 ERBA C SPA B03 D16 =NL 7900-869
Anthracycline glycoside antitumour and antibacterial derivs. - 59812B/33
ESPE 19.04.77 ESPE FAB PHARM PRAPARATE A96 D21 (A14) =OE 7802-732
Dental filling of high pressure resistance - 61913A/35
ESSO 07.08.74 EXXON RES & ENG CO A96 B04 D16 =CA 1060-366
Oxidised glycoenzymes bonded to amino-gp. contg. polymers - 17220X/10
ETHI 16.11.77 ETHICON INC A96 D22 F01 =FR 2409-278
Absorbable surgical suture filament and prosthesis material - 39387B/21
ETHI 20.01.78 ETHICON INC D22 =BR 7900-364
Armed suture package of folded paperboard panels - 09730B/05
EZAK 28.02.75 EZAKI GLICO D13 =J5 1101-171
Foamed gelatin jelly mfr. - 64140B/35
*EZAK 28.02.75 EZAKI GLICO D13 *J7 9022-501
Foamed gelatin jelly mfr. - 64140B/35
EZAK 28.03.75 EZAKI GLICO D13 =J7 9022-502
Multilayer foamed jelly prepn. - 87567X/47

FARB 15.02.74 BAYER AG A41 D15 E13 (A60) =CH -612-183
Alpha, beta-olefincally unsatd. monomers - 57172W/35
FARB 09.02.77 BAYER AG D15 =OE 7800-847
Aeration of activated sludge by injectors - 60582A/34

FARB 16.12.77 BAYER AG A25 C03 D21 E17 =J5 4090-394
Low mol. wt. poly:ol mixt. prodn. - 47327B/26
FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =BR 7808-244
Water-soluble amido-poly:amine cpds. used in paper mfr. - 47343B/26
FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =BR 7808-250
Water-soluble amido-poly:amine cpds. for use in paper mfr. - 47346B/26
FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =J5 4090-398
Water-soluble amido-poly:amine cpds. for use in paper mfr. - 47346B/26
FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =J5 4090-399
Water-soluble amido-poly:amine cpds. used in paper mfr. - 47343B/26
FARB 17.01.78 BAYER AG A82 D18 E37 F08 =BR 7900-272
Pigment preparations for (imitation) leather dressings - 54767B/30
FARB 11.02.78 BAYER AG C03 D13 =DT 2805-855
Plant protectant cpd. prepd. by Actinoplanes culture - 52922B/29
*FARB 21.02.78 BAYER AG A97 B05 D16 (A14) *DT 2807-286
Phenyl-glycine derivs. enzymatic optical resolution - 63329B/35
FARH 16.03.72 HOECHST AG A97 D25 =DS 2212-623
Detergent builders - 58439U/40
FARH 14.05.74 HOECHST AG D25 E17 (E33 E34) =CH -612-214
Powder detergents for textiles - 80386W/49
FARH 15.06.76 HOECHST AG A97 D15 =US 4164-482
Absorption agent contg. a polymer and a mineral - 90047Y/51
FARH 16.12.77 HOECHST AG D15 =J5 4091-959
Overloaded clarifying plant relief - 35443B/19
FARH 19.12.77 HOECHST AG A97 D25 E11 =J5 4090-309
Washing powder with improved detergent auxiliary - 45714B/25
FARH 11.01.78 HOECHST AG D15 =NO 7900-077
Flocculating agent for water treatment - 52792B/29
FARH 14.02.78 HOECHST AG A96 B07 D21 (A14) =BE -874-162
Thickening cosmetic, pharmaceutical compsns. etc. - 61669B/34
FARH 14.02.78 HOECHST AG A96 B07 D21 (A14) =GB 2014-584
Thickening cosmetic, pharmaceutical compsns. etc. - 61669B/34
FARH 14.02.78 HOECHST AG A96 B07 D21 (A14) =NL 7901-152
Thickening cosmetic, pharmaceutical compsns. etc. - 61669B/34
FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) =DT 2806-344
Solid cleaning prod. for glass, esp. car windows - 59824B/33
FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) =GB 2014-602
Solid cleaning prod. for glass, esp. car windows - 59824B/33
FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) =NL 7901-009
Solid cleaning prod. for glass, esp. car windows - 59824B/33
FARM 04.05.70 SOC FARMACEUTICI ITALIA B04 C03 D16 =J7 9022-520
Antibitotic axenomycind - 72064S/45
FARM= 20.02.78 FARM ANIMAL REARING D13 #DT 2807-136
Pasteurising and cooling plant for milk - 58086B/32
*FEDO/ 18.05.77 FEDOTKIN I M D17 J01 *SU -633-551
Bag filter for processing juices in sugar production - 64230B/35
FINL/ 16.09.77 FINLEY W T D15 =BR 7808-690
Elevating nutrient-rich ocean water from aphotic to photic zone - 25900B/13
FIRM 07.03.74 FIRMENICH SA B07 D23 E15 =DS 2440-024
Aroma substance from caryophyllene and/or humulene - 62495W/38
FIRM 16.11.77 FIRMENICH SA D23 E17 =FR 2409-251
5,9-Di:methyl-deca-4,9-di:en-1-al - 39369B/21
*FIRM 06.02.78 FIRMENICH SA B05 D13 E17 *WP 7900-588
Alkyl ester(s) of 3,5-hexadiene-1-ol - 64693B/35
FIVE 14.12.76 FIVES-CAIL BABCOCK D17 J01 =US 4164-429
Prepn. of seed crystals - 44427A/25
FIVE 28.03.78 FIVES-CAIL BABCOCK D13 #US 4164-052
Screen of rotating rollers for cleaning beets - 25720A/14
FMCC 17.04.75 FMC CORP D15 E13 =CA 1060-593
Treating aq. effluent contg. cyanuric acid or amino-triazines - 81191X/44
FMCC 17.04.78 FMC CORP D14 =US 4164-590
Pressure vessel steriliser for batches of canned food prods. - 28857A/16
*FMCC 10.10.78 FMC CORP D25 E11 F06 (E34) *US 4164-394
Low temp. bleaching of stained or soiled fabrics - 64578B/35
*FMCC 16.10.78 FMC CORP D25 E19 F06 (E34) *US 4164-395
Peroxide fabric bleach compsns. contg. sulphonyl oxime activator - 64579B/35
FOOD- 28.06.74 FOOD TECHNOL PRODS C01 D13 E12 #CA 1060-254
Herbivorous animal corn feeds contg. sodium diacetate - 86435W/52
*FORT- 17.08.76 FORTH INSTRS LTD D18 *GB 1551-412
Grading skins by measuring thickness and visually assessing grade - 63482B/35
*FRAN- 16.11.77 FRANCHE-COMTE UNION D13 *FR 2409-011
Controlled maturation of milk for cheese prodn. - 63450B/35
*FRIT- 14.02.78 FRITZSCHE DODGE & C D23 E15 *NL 7901-164
Beta:santalol, beta:santalene, di:hydro beta:santalol cpds., prepn. - 64169B/35
FRRR 21.09.77 FERRERO P & CIA SPA D11 =DS 2800-310
Bakery products for use with e.g. milk instead of known cereals - 24151B/13
FRUC/ 26.01.76 FRUCHTNICHT E A D15 =CH -612-325
Pisciculture water treatment circuit - 55990Y/32
GEHR- 16.09.75 F GEHRIG & CO AG D11 =OE 7606-801
Baking oven fumes duct - 20408Y/12
GENE 20.06.75 GENERAL ELECTRIC CO A26 D15 F09 H01 (A97 D16 D17) =CA 1060-308
Antifoaming polysiloxane compsn. - 02366Y/02
GENE- 08.11.77 GENENTEK INC B04 D16 =J5 4092-696
Recombining plasmid for transformation of bacteria - 35257B/19
GEOC- 15.02.78 GEN OCCIDENTALE D13 =GB 2014-429
Fresh spice plant preservation - 61756B/34
GEOC- 15.02.78 GENERALE OCCIDENTAL D13 =NL 7900-959
Fresh spice plant preservation - 61756B/34
*GERC/ 17.02.78 GERCKEN G B05 D13 E19 *DT 2806-804
Inhibiting lipase with malonic acid di:ester - 63293B/35
GLOB- 09.01.78 GLOBAL POLLUTION CO D15 #US 4164-470
Waste water treatment - 55444A/31
GRAI 09.12.77 GRAIN PROCESSING CORP D16 =SF 7803-752
Prepn. of roasted non-malted barley - 27923B/15

HAAR 22.12.72 HAARMANN & REIMER GMBH A97 D18 E12 =DS 2262-829
Chelate-contng. cellulose material tobacco substitute - 50460V/28
HAAR 19.04.74 HAARMANN & REIMER GMBH D23 E14 G06 (D13) =CH -612-410
Anethole prodn from anisole and propionaldehyde - 64049W/39
HAAR 22.12.77 HAARMANN & REIMER GMBH B02 C02 D13 E13 =J5 4092-964
Piperonylidene-crotonic acid amide derivs. prodn. - 49201B/27
*HAGE/ 22.02.78 HAGER K D15 *DT 2807-523
Automatic sterilisation of water by chlorine or bromine - 63354B/35
*HAGE/ 22.02.78 HAGER K D15 *DT 2807-524
Sterilising appts. for drinking, swimming pool water, etc. - 63355B/35
HASH/ 12.02.74 HASHIMOTO S D15 =J5 0111-863
Tert. treatment of polluted waste water - 64107B/35
*HASH/ 12.02.74 HASHIMOTO S D15 *J7 9022-024
Tert. treatment of polluted waste water - 64107B/35
HAUT/ 29.04.76 HAUTMANN H C03 D22 E17 (E14) =US 4164-561
Insect repellant esp. for waste bins - 83097Y/47
HENK 29.05.70 HENKEL KG AUF AKTIEN D22 E19 =DS 2026-240
Disinfecting solns contg active oxygen and activators - 76458S/48
HENK 18.07.70 HENKEL KG AUF AKTIEN D25 E12 =DS 2035-845
Low foaming washing powders - 07211T/05
HENK 04.05.74 HENKEL KG AUF AKTIEN D21 E16 =CH -612-088
Moisturising cosmetic prod - 75756W/46
HENK 01.12.76 HENKEL KG AUF AKTIEN A97 D25 (A91) =US 4164-430
Machine washing and cleaning of solid articles - 33405A/19
HENK 23.12.76 HENKEL KG AUF AKTIEN A87 D25 E19 F06 =DS 2658-575
Rinsing compsn. with stiffening and brightening effect - 48004A/27
HENK 16.07.77 HENKEL KG AUF AKTIEN D18 E33 =OE 7805-100
Additives for defatting and tanning in leather mfr. - 10088B/06
HENK 31.08.77 HENKEL KG AUF AKTIEN D21 E21 #DS 2739-227
Hair colouring agents giving wide range of colours - 19950A/11
HENK 21.11.77 HENKEL KG AUF AKTIEN C03 D13 =FR 2409-012
Growth-promoting animal feed - 40798B/22
HENK 21.11.77 HENKEL KG AUF AKTIEN C03 D13 =J5 4091-486
Growth-promoting animal feed - 40798B/22
HENK 22.12.77 HENKEL KG AUF AKTIEN D21 E19 =J5 4090-115
Mono- and di:carboxylic acid 2-hydroxy-alkyl ester(s) - 51272B/28
*HENK 17.02.78 HENKEL KG AUF AKTIEN D15 E33 *DT 2806-799
Aluminosilicate granules contg. binder prodn. - 63291B/35
HERA 29.08.74 HERAEUS W C GMBH D21 M26 =CH -612-215
Fine graining, dental gold alloy - 22769X/13
*HILG/ 19.10.77 HILGNER O L D12 *US 4164-056
Gripping legs of carcass by pair of clamps - 64554B/35
*HISA- 28.12.77 HISASHI SANGYO KK A35 D15 H05 J01 *J5 4091-955
Adsorptive treatment of waste water contg. oil etc. - 63931B/35
HITA 01.12.76 HITACHI KK D15 E33 =DS 2753-612
Regenerating zeolite contg. adsorbed ammoniacal nitrogen - 42510A/24
HITA 06.06.77 HITACHI KK D13 E24 G02 =J7 9022-337
Ink compsn. for jet printing on food, e.g. fruit or eggs - 12666B/07
*HITA 27.12.77 HITACHI KK A88 D15 J01 (A23) *J5 4089-982
Reverse permeation membrane - 63621B/35
HLSL- 22.11.74 HLS LTD IND ENG CO D23 (D13) =CA 1060-465
Edible liquid oil prodn. - 30222X/17
HOAJ/ 23.08.76 HUI BON HOA J D21 =GB 1551-573
Facial beauty treatment with clay mask over cleansing compsn. - 88302Y/50
*HOCH/ 16.06.76 HOCHSTRASSER J C D11 *CH -612-073
Preparing dough for making bread rolls - 63210B/35
HOFF 13.01.78 HOFFMANN-LA ROCHE AG D13 E24 =DK 7900-150
Colouring agent, esp. for drinks, based on natural colourant - 52539B/29
HOFF 13.01.78 HOFFMANN-LA ROCHE AG D13 E24 =NO 7900-102
Colouring agent, esp. for drinks, based on natural colourant - 52539B/29
HOFF 13.01.78 HOFFMANN-LA ROCHE AG D13 E24 =SW 7812-896
Colouring agent, esp. for drinks, based on natural colourant - 52539B/29
HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =NL 7901-182
Trestatin amino sugar derivs. - 61777B/34

*HOGY- 29.12.77 HOGYOKU KORYO KK D13 (D18) *J5 4092-662
Cocoa flavouring used in tobacco or cocoa substitute - 64038B/35

*HOHM/ 10.02.78 HOHMANN H D15 *DT 2806-378
Desalination of sea-water for drinking - 63266B/35

*HOHN 26.12.77 HOHNEN OIL KK C03 D13 *J5 4089-893
Edible buffering material prepn. - 63585B/35

HORI- 08.12.76 HORIBA LTD A97 D15 H03 J04 (A18) =US 4164-653
Solvents for extracting oil from water - 44333A/25

*HORV/ 24.04.78 HORVATH E D12 *OE 7802-939
Slaughtering bay in abattoir - B/35

HULE- 12.09.77 HULETTS SUGAR LTD D17 =J5 4090-068
Vertical cylindrical continuous vacuum crystalliser esp. for sugar pro - 06105B/04

*HYGI- 17.11.77 HYGIENE NUTRITIONNE D13 *FR 2409-008
Low calorie dietetic fibre based foodstuff - 63448B/35

ICIL 07.04.75 IMPERIAL CHEM INDS LTD D15 J01 =CH -612-361
Flotation treatment of waste water and sewage - 79361X/43

ICIL 10.07.75 IMPERIAL CHEM INDS LTD D15 =CA 1060-589
Solid liq. mixt. sepn. - 08012Y/05

ICIL 23.12.77 IMPERIAL CHEM INDS LTD C03 D22 G02 H08 (D15 G03) =J5 4090-163
1-Thiocyanato-8-substd. naphthalene biocides - 47159B/26

*ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 *BE -874-348
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35

IDEK 17.09.76 IDEMITSU IND KK A88 D15 J01 (A14) =J7 9022-225
Copolymer membranes for oil-water sepn. - 23623A/13

IMAM/ 12.03.76 IMAMURA T D15 =J7 9022-699
Waste organic liquor purificn. - 76631Y/43

IMPU- 16.06.75 IMPULSA VEB D13 =GB 1551-378
Converting fat in water to water in fat emulsions - 52199X/28

INFL 07.10.76 INT FLAVORS & FRAGR INC D23 E13 =DS 2759-502
Substd.-(4,5)-(di)methyl thiazoline cpd. perfume and cologne compsns. - 59207Y/33

INGR- 29.11.77 INGREDIENT TECHN D17 (D13) =SF 7803-591
Agglomeration of powdered solids, e.g. carbohydrate(s) - 42722B/23

INTE- 06.12.77 INTERMEDICAT GMBH A96 D22 (A17 A26) =SF 7803-736
Heart surgery prostheses mfr. - 44295B/24

INTT 14.11.74 ITT IND INC D11 =CA 1060-259
High whole proteinous bread prodn - 51020X/27

IREK- 10.08.71 IREKS GMBH D13 =DS 2139-917
Ice cream prepn/dispensing - 21177V/12

ITII- 22.11.77 ITI ICEBERG TRANSPORT D15 H01 =FR 2409-186
Self-stabilising floating tower - 40842B/22

ITII- 22.11.77 ITI ICEBERG TRANSPORT D15 H01 =FR 2409-187
Self-stabilising floating tower - 40841B/22

*ITOY/ 28.12.77 ITO Y D15 K08 L02 *J5 4091-510
Enamel compsn. contg. low radioactive matter - 63872B/35

ITWA- 03.06.77 INT WATER SAVING D15 =BR 7808-657
Toilet system which reduces effluent to microparticle size - 89601A/49

JAAT 15.11.73 JAPAN ATOMIC ENERGY RES A96 B04 D16 =J7 9021-868
Enzyme immobilization by polymers - 11877X/07

*JACQ- 16.11.77 JACQUET BISCOTTE D11 *FR 2409-007
Bakery prod. pressure baked in extrusion cooker - 63447B/35

*JAOR 29.12.77 JAPAN ORGANO KK D15 J01 *J5 4092-584
Regenerating double layer ion exchange resin bed - 64007B/35

*JAOR 29.12.77 JAPAN ORGANO KK D15 J01 *J5 4092-585
Regenerating double layer ion exchange resin beds - 64008B/35

*JAPS 29.12.77 JAPAN SYNTHETIC RUBBER C03 D22 *J5 4092-630
Gel-like solid contg. volatile active component - 64030B/35

JETC- 01.08.77 JET-CERAMIC DENT D21 =BR 7808-673
Dental prosthesis working model prodn. - 15961B/08

JOAC/ 19.02.76 JOA C G D22 =CH -612-334
Babys disposable napkin with adhesive patch fasteners - 43515Y/25

JOHA/ 21.07.75 JOHANSSON J A O A97 D22 #CH -612-090
Disinfectant contg. complex-bonded iodine - 44138X/24

JOHJ 23.01.78 DEVRO INC D12 =BR 7900-375
Cutting thin walled tube into segments - 42143B/22

*JOHJ 21.02.78 JOHNSON & JOHNSON A97 D22 F09 *BE -874-353
Absorbent pad for disposable napkins, sanitary towels etc. - 63155B/35

*JOHJ 30.01.79 JOHNSON & JOHNSON A97 D22 F09 *BE -874-354
Multilayer absorbent pad for disposable napkin, sanitary towel etc. - 63156B/35

*JOHM 09.02.79 JOHNS MANVILLE CORP B04 D16 E31 J04 *GB 2014-553
Osmium and ruthenium amine nitride complex salts - 63503B/35

KALU 21.06.76 KAZAN LENIN UNIV D13 E14 =OE 7704-269
Catalyst for hydrogenolysis of dimethyl-dibutyl hydroxy-benzylamine - 00005A/01

*KANE 28.12.77 KANEBO KK D21 E13 *J5 4092-633
Cream or emulsion type cosmetics - 64033B/35

KAOS 17.01.75 KAO SOAP KK A87 D25 E12 F06 (A25 E16) =J7 9022-451
Antiredeposition agent used in dry cleaning - 82166X/44

KAOS 17.03.77 KAO SOAP KK D23 E17 =US 4164-506
Lower alcohol ester(s) of fatty acids prodn. - 81321A/45

KAOS 15.02.78 KAO SOAP KK D25 E16 (E14) =GB 2014-603
Dry-cleaning compsn. yielding soft antistatic clothes - 61760B/34

*KAOS 17.02.78 KAO SOAP KK B03 C02 D25 E13 (D21) *DT 2905-252
Glycolipid methyl ester prodn. for sophorolipid - 63397B/35

KAWA/ 10.08.71 KAWAZOE A D15 M11 =J7 9022-700
Treating plating waste water contg. cyanide and metals - 11358A/06

*KECH= 15.03.77 KEMER CHEM IND RES A91 D15 *SU -633-872
Water-soluble polyelectrolyte for use as a flocculant - 64409B/35

*KECO= 15.03.77 KEMER COKE CHEM WKS A91 D15 *SU -633-872
Water-soluble polyelectrolyte for use as a flocculant - 64409B/35

KEIL/ 25.11.77 KEIL W A91 D15 J01 =SF 7803-490
Water softening appliance - 33443B/18

KEMI- 09.01.78 KEMIN INDUSTRIE INC C03 D13 =SW 7805-422
Stable emulsified liquid starch prod. - 52805B/29

*KETT- 18.02.78 KETTENBACH A FAB CH A96 D21 E33 (A26) *DT 2806-948
RTV silicone impression compsns. - 63305B/35

KILC- 01.12.77 KILCHER-CHEMIE AG D15 J01 =SF 7803-643
Cross-flow filtering appts. - 44431B/24

*KLEI/ 26.07.78 KLEINERT G B07 D11 *DS 2832-782
Prepn. of bread or confectionery contg. medicaments - 63239B/35

*KOHL/ 10.02.78 KOHLBECKER G B05 C03 D16 J04 *DT 2806-371
Oxalate determination - 63265B/35

KOJK 04.05.72 KOJIN CO LTD D16 F09 =J7 9022-514
Ligno-sulphonate decomposition - 35328V/19

KOND/ 28.12.77 KONDOJI I B04 D16 =J5 4092-914
Straight chain peptide type antibiotics K 582 M - 51279B/28

*KONI/ 00.00.76 KONIG H D11 *OE 7601-028
Dough pieces portioning, cutting and laying down device - B/35

KONN 24.09.71 GIST-BROCADES NV B04 D16 =CH -612-444
Insolubilised enzymes - 20105U/15

KONN 26.03.74 GIST-BROCADES NV B05 D16 =US 4164-446
Bronchospasmolytic 18-, 19- and 20-hydroxy prostaglandins - 67684W/41

*KOPP 23.04.73 KOPPERS CO INC C01 D22 E12 F09 *CA 1060-155
Treatment of wood to prevent staining, mould and decay - 63203B/35

KOPP- 10.02.78 KOPPENS MACHINEFABR D12 =NL 7801-537
Device for pressing e.g. ground meat into disc shaped prod. - 40645B/22

KOPS 15.12.77 KRUPP-KOPPERS GMBH D15 H09 =J5 4090-869
Coke oven gas waste water desulphurisation - 22151B/12

KOTT/ 07.04.75 KOTT R D12 =DS 2515-067
Skinless smoked sausage - 90734X/49

KRPP 19.11.77 KRUPP F GMBH D14 (D23) =FR 2409-147
Multistage screw press to expel liq. from oil seed etc. - 22106B/12

*KRUG- 01.07.78 KRUGER & CO KG D13 (D17) *DS 2828-992
Instant sugar-contg. powders - 63235B/35

*KURE 29.12.77 KUREHA CHEM IND KK D23 E19 *J5 4092-904
Unsatd. alcohol(s), prepd. by reacting isoprene with an aldehyde - 64062B/35

*KURE 29.12.77 KUREHA CHEM IND KK B05 D23 E17 (B03 E13 E14) *J5 4092-912
Prepn. of mono:terpene alcohol(s) and acetic acid ester(s) - 64066B/35

*KURK 29.12.77 KURITA WATER IND KK D15 F06 *J5 4091-961
Removing organics from waste water - 63932B/35

*KUSA/ 02.09.77 KUSANO K A96 D21 E16 (A25 D22 E12) *J5 4041-333
Disinfectant, deodorant, antiinflammatory compsn. for skin - 63544B/35

KYOW 21.12.77 KYOWA FERMENTATION KK B03 D22 E13 =J5 4092-941
Antibiotic iso:fortimicin with broad-spectrum antibacterial activity - 47155B/26

*KYOX 28.12.77 KYOWA KK D23 E19 *J5 4092-635
Perfume compsn. contg. beta-alkoxy:isobutyric acid ester - 64034B/35

*KYOX 28.12.77 KYOWA KK D23 E17 *J5 4092-636
Perfume compsn. with fruit- and/or flower-like scent - 64035B/35

*LECE 02.09.76 LENINGRAD CELL-PAPER INS D15 *SU -633-805
Sulphur cpd. removal from waste water - 64346B/35

LEIT 18.10.75 E LEITZ WETZLAR D22 M13 =CH -612-084
Coating metallic and nonmetallic prostheses with bioactive substances - 11223Y/07

LEPE 17.09.69 GRUPPO LEPETIT SPA D22 =DS 2045-337
Disinfectant comprising an organotin - 23658S/14

*LICH/ 22.01.75 LICHTBLAU F D15 *OE 7500-425
Processing rubbish and sewage sludge mixtures - B/35

LINM 03.11.77 LINDE AG D15 =OE 7804-162
Two/stage biological sewage treatment - 37266B/20

LIOY 17.04.75 LION FAT & OIL KK D25 E12 =J7 9021-842
Detergents for dishwashing - 93073X/50

LIOY 18.03.77 LION FAT & OIL KK D25 E37 =US 4164-478
Detergent granules contg. surfactant, silicate and carbonate builder - 69287A/39

AIP 21.11.77 PRODS DU MAIS SOC A11 D17 =FR 2409-310
Modified starch prepn. esp. using two centrifuge separations - 38989B/21
ASH/ 29.12.77 MASHIDA T A86 D22 *J5 4092-779
Leather watch strap - 64049B/35
ASH/ 29.12.77 MASHIDA T A86 D22 *J5 4092-780
Watch strap prodn. - 64050B/35
ATS/ 27.12.77 MATSUMOTO H A96 D22 F07 (A14) *J5 4090-888
Surgical suture - 63835B/35
ATU 22.12.77 MATSUSHITA ELEC IND KK C03 D22 (D16) *J5 4091-438
Sterilisation of culture medium - 63868B/35
CGA/ 01.02.78 MCGALLIARD J D A83 D21 F07 =WP 7900-577
Garment which automatically removes unwanted hair - 40351B/21
EIJ 28.06.68 MEIJI KK B04 C03 D16 =J7 0017-159
Prepn. of antibiotics sf-767-a and sf-767-I - 10513R/07
EIJ 14.02.78 MEIJI SEIKA KK B04 D16 =NL 7901-010
Antibiotics SF-2050 and SF-2050b - 61757B/34
ENR- 20.02.78 MENRATH KG D13 *DT 2807-208
Beverage powder contg. gelatin - 63325B/35
ERE 16.02.78 MERCK PATENT GMBH D13 *GB 2014-424
Low decomposition rate granulated dietetic foodstuff - 63486B/35
ERI 28.11.77 MERCK & CO INC B04 D16 =SF 7803-620
Pneumococcal vaccine contg. capsular polysaccharide - 44422B/24
ERI 17.08.78 MERCK & CO INC B04 D16 *US 4164-566
Hepatitis A virus cell culture in vitro - 64659B/35
MILE- 09.01.78 MILERO AG D13 =BR 7900-061
Preserving herbs to avoid loss of volatiles - 35303B/19
MILE- 09.01.78 MILERB AG D13 =SW 7900-097
Preserving herbs to avoid loss of volatiles - 35303B/19
MINE- 23.06.75 MINERUBA KK D15 =J7 9022-698
Water purificn. by treating with surface activated metal - 11865Y/07
MINN 24.03.75 MINNESOTA MINING CO A96 B07 D21 =US 4164-563
Non-greasy compsn for topical application to skin - 77893X/42
MINN 19.01.78 MINNESOTA MINING CO A97 D25 =BR 7900-320
Fat-removing cleansing pad - 56569B/31
MITC 28.12.77 MITSUI PETROCHEM IND KK D23 E15 *J5 4092-947
15-Methyl-bi:cyclo(10.3.0)penta-deca-1(12)-en-13 one prepn. - 64081B/35
MITC 22.02.78 MITSUI PETROCHEM IND KK A88 D15 J01 (A14 A17) *DT 2906-998
Sepg. alcoholic beverage from fermentation liquor - 63445B/35
MITN 24.07.74 MITSUBISHI GAS CHEM IND D15 E17 =J7 9022-022
Formaldehyde-contg waste water - 21647X/12
MITP 27.12.77 MITSUBISHI PETROCH KK D15 E17 *J5 4090-868
Purificn. of waste water contg. organic acids - 63829B/35
MITR 04.11.76 MITSUBISHI RAYON KK A14 D15 (A91) =US 4164-612
Water-soluble cationic vinyl polymers - 36891A/21
MITR 04.11.76 MITSUBISHI RAYON KK A14 D15 (A91) =US 4164-612
Water-soluble cationic vinyl polymers - 36891A/21
• MITR 28.12.77 MITSUBISHI RAYON KK A35 D15 H05 J01 *J5 4091-955
Adsorptive treatment of waste water contg. oil etc. - 63931B/35
MITU 28.02.75 MITSUBISHI CHEM IND KK D15 =J7 9022-702
Active sludge treating device - 78460X/42
• MITU 27.12.77 MITSUBISHI CHEM IND KK D16 *J5 4092-691
Deoxyribonuclease prepn. - 64044B/35
MJOL- 23.11.77 MJOLKCENTRALEN ARLA D13 =SF 7803-567
Protein concentrate prodn. from skimmed milk - 24015B/13
MJOL- 23.11.77 MJOLKCENTRALEN ARLA D13 =SF 7803-568
Low calorie margarine mfr. - 24016B/13
• MOHL/ 18.02.78 MOHLMANN G D12 *DT 2807-059
Kneading machine for pickled or injected meat pieces - 63316B/35
MOLE- 26.11.74 MOLECULAR ENERGY RE A41 D24 E37 M11 (D25) =CH -612-403
Inorganic monomer and polymer complexes contg. metals - 31907X/18
MONS 15.12.75 MONSANTO CO A97 B04 D16 (A14) =CA 1060-367
Polyacrylonitrile surfaces for culturing cells - 37916Y/21
MOOC 08.12.77 MO OCH DOMSJO AB D22 =SF 7803-776
Dressing for high fluid secretion wounds - 47480B/26
MORN- 14.02.78 MORNING TREAT COFFE D13 #NL 7801-644
Packaging ground coffee in individual porous bags - 28504A/15
• MOTE= 14.02.78 MOSC TEXTILE INST A11 D15 (A14 A91 D17) *NL 7809-829
Graft copolymers of cellulose with vinyl pyridine(s) - 64161B/35
• MOTE= 14.02.78 MOSC TEXTILE INST A11 D15 E14 (A14 A91 D17) *NL 7810-636
Graft copolymers of cellulose - 64162B/35
MRSC 18.10.73 MARS LTD C03 D13 =CH -612-328
Animal food product contg. compressed fermented protein - 19290W/12
MRSC 12.12.75 MARS LTD D13 =OE 7609-230
Prodn. of pressed chocolate articles carrying a relief design - 41731Y/24
MUAG 11.10.77 HUNGARIA MUANY AGFELDOL A97 D15 #OE 7707-276
Packing unit for process column or sewage purification - 82239A/46
MULL/ 22.11.77 MULLER E D13 =FR 2409-016
Puffed cereal prodn. - 16085B/09

• NAFF/ 06.02.78 NAF F B05 D13 E17 *WP 7900-588
Alkyl ester(s) of 3,5-hexadiene-1-ol - 64693B/35
NAMA- 09.12.74 NAT MARINE SERVICE D15 H03 J01 =CA 1060-334
Disposal of oil-contaminated effluent - 49358X/26
NATR 18.04.72 NATIONAL RES DEV CORP A96 D21 =J7 9021-858
Dental cements - 69497U/46
NEST 04.11.70 SOC PROD NESTLE SA D13 =DS 2153-848
Frozen food extracts mill - 32763T/21
NEST 09.04.76 SOC PROD NESTLE SA D13 =OE 7702-501
Liq. extn. of plants, esp. coffee - 74355Y/42
NEST 02.06.76 SOC PROD NESTLE SA D16 E24 (D13) =DS 2724-992
Orange pigment from Monascus species prepn. - 88588Y/50
NEST 06.02.78 SOC PROD NESTLE SA D13 =GB 2014-423
Improving consistency of reconstituted purees esp. of vegetables 47198B/26
NEWG- 17.11.77 NEW GENERATION FOOD D13 =FR 2409-015
Expanded foodstuff prepd. from high protein wheat - 23989B/13
NEWG- 17.11.77 NEW GENERATION FOOD D13 =J5 4092-640
Expanded foodstuff prepd. from high protein wheat - 23989B/13
• NICA 29.12.77 NIPPON CARBIDE KOGY KK A91 D15 F09 J01 *J5 4092-572
Solids. sepn. from waste slurry - 64000B/35
• NICL- 29.12.77 NIPPON CLINKAGE KK D15 *J5 4092-574
Gas-liquid contact appts. - 64001B/35
• NILE- 26.12.77 NILEX INGENIEUR AS D15 J01 *J5 4089-975
Evaporator for fresh water prodn. from sea water - 63617B/35
NIPC 22.05.73 NIPPON CHEM IND KK D15 E32 M11 =J7 9021-840
Refining of cuprous cyanide from waste plating solns. - 59408W/36
• NIPK 23.06.76 NIPPON KAYAKU KK B04 D16 *J5 4092-693
Enzymatic prepn. of cephalosporin derivs. - 64046B/35
• NISE- 28.02.70 NIPPON SEIMAI KOGYO D13 *J7 9022-491
Coating rice grains to provide storage stability and gloss - 64135B/35
• NISO 29.12.77 NIPPON SHOKUHIN KAKO KK D13 (D18) *J5 4092-662
Cocoa flavouring used in tobacco or cocoa substitute - 64038B/35
NISS 10.09.74 NISSHIN FLOUR MILL KK D13 (D12) =CA 1060-256
Fibrous crab meat food product - 33112X/18
NISW 01.06.77 NISSHIN OIL MILLS KK D13 =J7 9022-496
Washing granular defatted soybean protein with aq. ethanol soln. - 10892B/06
NITP 30.03.73 NIPPON TERPENE KAGA KK B05 D16 E15 (D23) =J7 9022-515
Biochemical separation of l-menthol - 26541W/16
NITY 04.04.75 NITTETSU CHEM IND KK D15 =J5 1116-062
Regeneration and recovery of exhausted active carbon - 79695X/43
NITY 04.04.75 NITTETSU CHEM IND KK D15 =J7 9022-707
Regeneration and recovery of exhausted active carbon - 79695X/43
NMHB 18.10.77 NORDISCHER MASCHINE D12 #GB 1551-465
Guide delivering fish at same height for processing - 76514A/43
NNSH 21.11.77 NIPPON SHINYAKU KK B04 D16 =FR 2409-308
Hypoglycaemic piperidine deriv. moranolin prodn. - 40914B/22
• NONF= 07.04.77 NONFER MET ORE ENRI D15 *SU -633-820
Cyano-contg. effluent purification control system - 64361B/35
• NORD- 17.03.78 NORDBRAU INGOLSTADT D16 *BE -874-415
Beer of low alcohol content - 63165B/35
NORM- 19.02.76 NORM AMC AG C04 D15 =CH -612-405
Composted humus continuously produced from wet biological sludge - 19990Y/12
• NORQ 28.12.77 NORIINSHO A96 B04 D16 *J5 4092-689
Bonding enzyme to inner surface of narrow tube - 64042B/35
NOVI- 18.07.72 NOVITAS NUPROT SA D12 (D13 D15 D16) =SU -633-448
Protein extraction - 09630V/06
• NUTR- 22.02.78 NUTRIDAN ENG A/S D12 *DT 2807-554
Removing blood colour by sudden pressure drop - 63360B/35
NYBL- 14.03.75 NEW YORK BLOOD CENT B04 D16 =US 4164-565
Viral hepatitis vaccine - 57893X/31

OREA 16.05.74 L'OREAL SA A96 D21 (A26 D25) =DT 2560-117
Quaternised polymers for cosmetic compsns. - 80221W/49
OREA 02.08.74 L'OREAL SA A96 D21 =OE 7505-985
Amine-functional polymer-contg. hair-conditioning cosmetic compsn. - 13435X/08
OREA 29.07.77 L'OREAL SA A97 D22 E12 =GB 2014-453
Deodorant agents for personal hygiene, animal litter etc. - 12309B/07
OREA 16.12.77 L'OREAL SA A96 D21 E13 =BR 7808-245
Cosmetic compsn. for reinforcing the nails - 45689B/25
OREA 06.01.78 L'OREAL SA D25 =BR 7900-063
Cosmetic skin cleaning compsn. - 50873B/28
OUTO 14.02.78 OUTOKUMPU OY D15 J04 =NL 7901-000
Tubular cell for voltameter or polarograph - 61720B/34

PACJ 01.04.77 PATTERSON C J CO D11 E12 =US 4164-593
Non-caking powdered dough conditioning agent - 75602A/42
PALM/ 02.09.77 PALMER W F A88 D15 =BR 7808-687
Communal and industrial wastes treatment - 20214B/11
PATE- 10.01.77 PATENT TECHN INC D13 =GB 1551-594
Whey treatment giving prods. with increased protein content - 54749A/30

PAUL/ 02.04.76 PAULUCCI J F D11 =US 4164-591
Heating prepd. foods esp. pizzas - 74431Y/42
PEPS 25.11.74 PEPSICO INC D13 =CA 1060-260
Continuous prodn of crisp-like prods partic potato crisps - 42396X/23
PERM- 30.11.77 PERMUTIT BOBY LTD D15 =J5 4090-855
Ion exchange water purifying appts. - 44394B/24
PERU 30.11.77 PERMUTIT LTD D15 =SF 7803-650
Ion exchange water purifying appts. - 44394B/24
PETE- 22.11.77 PETERSON PURITAN B07 D21 E19 G04 =FR 2409-081
Water-in-oil emulsion contg. modified montmorillonite - 40918B/22
*PETL 24.03.72 PETROLITE CORP C01 D22 E11 H01 (D15) *US 4164-574
Control of microbiological growth in aq. systems - 64662B/35
PFIZ 07.01.74 PFIZER INC B02 C02 D15 =SU -633-478
Antibacterial cyano-2-aminocarbonyl quinoxaline 1,4-dioxides - 47688W/29
PFIZ 28.08.75 PFIZER INC B03 C02 D13 E13 (D23) =OE 7601-095
(3)-Hydroxy gamma:pyrones prepn. - 11094Y/07
PFIZ 18.11.77 PFIZER INC B05 D16 E17 =FR 2409-304
2,5-Di:keto-gluconic acid preparation - 38984B/21
PFIZ 18.11.77 PFIZER INC B05 D16 E17 =SF 7802-871
2,5-Di:keto-gluconic acid preparation - 38984B/21
PHAA 19.11.76 PHARMACIA AB B05 D21 =GB 1551-637
Retinoic acid-lactic acid ester compsn. - 36653A/21
*PIKO/ 28.09.76 PIKOVSKAYA R I C03 D16 *SU -633-897
Proactinomyces phosphaticus fungal strain - 64434B/35
POKK 22.11.77 POLA CHEMICAL INDS INC D21 E12 =FR 2409-048
Cosmetic skin treatment formulation contg. an organo germanium cpd. - 40915B/22
POLQ 17.02.78 POLYSAR LTD A96 D22 =BE -874-155
Foil-forming thermoplastic compsn. for orthopaedic use - 63399B/35
*POLQ 17.02.78 POLYSAR LTD A96 D22 *DT 2905-451
Foil-forming thermoplastic compsn. for orthopaedic use - 63399B/35
*POPO/ 26.04.76 POPOV V V A11 D15 F01 *SU -633-822
Treatment of aq. waste from viscose fibre prodn. - 64362B/35
POST/ 01.06.76 POSTOLOV L E D15 E36 J01 =SU -633-821
Removing mercury from aq. solns. - 90506Y/51
PPCA 26.06.74 PULP & PAPER RES CA INST A11 D22 F06 =J7 9021-873
Modified cellulosic textiles - 05852X/04
PROC 13.11.73 PROCTER & GAMBLE CO B06 D21 =CA 1060-346
Agent for remineralising tooth enamel for caries control - 34604W/21
PROC 16.09.74 PROCTER & GAMBLE CO D13 =CA 1060-255
Shaped textured protein prod. with cottonseed protein binder - 74092Y/41
*PROC 13.06.77 PROCTER & GAMBLE CO A97 D13 E11 (A26) *US 4164-592
Inhibiting fatty acid hydroperoxide formation during frying - 64668B/35
PROC 21.09.77 PROCTER & GAMBLE CO D13 E19 =J5 4092-663
Meat aroma precursor compsn. - 26453B/14
PROC 23.09.77 PROCTER & GAMBLE CO A97 D25 E19 =J5 4090-208
Laundry detergent for removing oily dirt from hydrophobic fibres - 72508A/40
PROC 21.11.77 PROCTER & GAMBLE CO A87 D25 E19 F06 =FR 2409-302
Textile softening compsn. - 40886B/22
PROC 11.01.78 PROCTER & GAMBLE CO A97 D25 E12 (E13) =BR 7900-185
Bleach compsn. contg. cationic cpd. and porphin photoactivator - 58446B/32
PROC 11.01.78 PROCTER & GAMBLE CO A97 D25 E23 (A25) =BR 7900-186
Washing and bleaching laundry compsn. - 54921B/30
PROC- 11.10.76 PROCESS ENG CO D16 =GB 1551-566
Foam separator at outlet of fermentation vessel - 21639A/12
*PRPA= 02.08.76 PERM PAPER IND RES TRUST D16 M22 *SU -633-658
Binder for foundry cores and moulds prodn. - 64300B/35
*PRPO= 02.08.76 PERM POLY D16 M22 *SU -633-658
Binder for foundry cores and moulds prodn. - 64300B/35
*PUNT= 10.11.75 PUNTUKAS CONS BUR D15 F01 *SU -633-597
Microbiological maceration of bast fibres recycle water purificn. - 64276B/35
*PURD 27.02.78 PURDUE RESEARCH FOUNDATI A97 D16 J01 *BE -874-429
Dialysis compsn. for blood purification in artificial kidney - 63170B/35
PURX 21.11.77 PUREX CORP LTD D22 =US 4164-055
Cleaning and disinfecting hard floors - 50745B/27

RALS 16.05.77 RALSTON PURINA CO C03 D13 =OE 7803-472
Palatable dog food contg. lysine(s) - 68950A/39
RAVA/ 28.12.76 RAVAGNAN G D15 H03 J01 =OE 7709-107
Industrial sepn. of oil from waste water with rotary skimmers - 32135A/18
*REPU= 27.05.77 REPUBLIC DES-CONS D15 *SU -633-816
Mechanical horizontal water aerator - 64357B/35
RETO 15.04.74 REYNOLDS TOBACCO CO D18 =CA 1060-195
Smoking mixture of expanded cereal grains - 73526W/44
RETO 23.12.74 REYNOLDS TOBACCO CO D16 (D17) =CA 1060-365
Flocculating active enzyme microbial cells - 11025X/06
REXA 24.03.75 DART INDUSTRIES INC D14 =CH -612-144
Moisture-proof container for ice-cream block - 30212X/17
RHON 16.01.78 RHONE-POULENC INDUSTRIES D17 (D16) =BR 7900-252
Xanthomonas polysaccharide(s) used to prepare aq. gels - 52555B/29
*RICH 18.01.67 RICHARDSON MERRELL INC A35 D22 *DS 1642-159
Work-basket for sterilisation baths - 63223B/35
*RIGA/ 16.02.78 RIGATTI LUCHIN L D21 M26 *DT 2905-102
Electric vacuum furnace for melting gold or dental alloys etc. - 63393B/35
RIGA/ 16.02.78 RIGATTI-LUCHINI L D21 M26 =GB 2014-829
Electric vacuum furnace for melting gold or dental alloys etc. - 63393B/35
*RIJK- 09.02.78 RIJKSLANDBOUWHOGESC D16 E36 *NL 7801-517
Highly active hydrogenase from Desulfovibro vulgaris - 64156B/35
ROHG 20.12.77 ROHM GMBH C03 D13 =J5 4091-485
Animal protein hydrolysates useful for animal feedstuffs - 53143B/29
*ROKK- 27.12.77 ROKKO BUTTER KK D13 *J5 4092-654
Compsn. for mfg. fried cheese - 64037B/35
ROUR 23.12.70 ROUR BERTRAND DUPON D23 E15 =J5 4090-155
Cis methyldihydrojasmonate - 43866T/27
RUBI- 13.04.77 RUBINSTEIN H INC A96 D21 E17 (E16) =CH -612-089
Aq. hair shampoo and conditioner compsn. - 85090Y/48
RUTH- 24.11.77 RUTHNER IND ANLAGEN D15 =OE 7708-433
Refuse and sewage slurry composter - 42805B/23

SAKA 29.12.77 OTSUKA PHARM KK B02 D16 =J5 4092-680
Deca:hydro-naphthalene-spiro-benzofuran derivs. - 84059A/47
SAKC 01.10.74 SAKURA COLOR PROD D22 E19 G02 =J7 9022-144
Indicator inks for ethylene oxide sterilisation - 28656X/16
SAND- 06.12.77 SANDERSON W & SONS D14 =BR 7807-243
Press for extracting juices and volatile oils from whole fruit - 44241B/24
SAND/ 01.08.77 SANDERSON R S D22 =BR 7808-674
Sterilised storage container with temp. and pressure responsive valve - 15962B/08
*SANP 29.12.77 SANSHO SEIYAKU KK A96 D21 (D16) *J5 4092-632
Cosmetics for whitening - 64032B/35
*SANW- 29.12.77 SANWA SOKO KK D13 (D17 D22) *J5 4092-619
Antiseptic prepn. - 64025B/35
SANY 26.11.73 SANKYO KK B02 C02 D13 =CA 1060-432
7-Beta-Acylamino-7 alpha-methoxy-cephalosporins - 38027W/23
SANY 04.03.77 SANKYO KK B04 C03 D16 =OE 7801-592
17927A-Type antibiotics derived from Streptomyces spp. - 65674A/37
SCHE/ 16.03.76 SCHEICHER H D21 L02 =OE 7701-708
Prostheses for dental and other applications - 48865Y/28
SCHM- 20.12.76 SCHMID & WEZEL D12 =GB 1551-492
Compass saw for cutting up slaughtered animals - 47953A/27
*SCHU- 18.02.78 SCHULZE O GMBH D15 *DT 2807-047
Circulator for fermenting sludge sedimenting into vessel sump - 63314B/35
*SCHU- 22.02.78 E SCHUTT LAB ARZTE D16 *DT 2807-445
Small fermenter for intensive and rapid cell cultures - 63341B/35
*SCHU/ 18.09.78 SCHUMACHER H A18 D13 J04 (A28) *DS 2840-496
Fluidised bed installation reacting solid matter and gases - 63241B/35
SCIE 30.11.77 SCIENCE UNION & CIE B04 D16 =SF 7803-675
Depsipeptide extract of Fusarium equiseti - 42405B/23
SEBS- 21.02.78 SEB SA A96 D12 =DT 2904-401
Domestic wax melting installation - 39020B/21
*SEKI 27.12.77 SEKISUI CHEMI IND KK A91 D15 E32 J01 *J5 4089-987
Arsenic collecting material - 63626B/35
SHIO 20.09.74 SHIONOGI KK B05 D16 E17 =CH -612-440
2-Keto-L-gulonic acid prepn from D-glucose by fermentation - 26705X/15
SHIO 29.12.77 SHIONOGI KK B03 C02 D22 =J5 4092-951
Amino-glycoside derivs. - 52972B/29
*SHIO 22.02.78 SHIONOGI KK B04 C03 D16 *DT 2906-996
Antigenic haemagglutinin from Haemophilus gallinarum - 63444B/35
SHOF- 22.12.75 SHOFU DENTAL MFG CO D21 M26 =US 4164-419
Copper-silver-tin-indium dental alloy - 47327Y/27
*SHYD= 01.09.76 SOUTH HYDROTECH MEL D15 *SU -633-550
Continuously-operating sand filter for water purification - 64229B/35
SIEI 01.02.78 SIEMENS AG D15 J04 =GB 2014-650
Automatic dosing of predetermined quantities of several liquids - 42427B/23
SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) =BE -874-300
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
*SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) *DT 2906-510
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
*SLYU/ 05.01.76 SLYUSARENKO M YA D13 *SU -633-516
Separator for diseased and healthy potatoes - 64212B/35
SMHL 05.05.76 SIMON HARTLEY LTD D15 =CA 1060-262
Travelling bands pressure filter for sewage sludge etc. - 61245Y/35
SMIK 16.01.78 SMITH KLINE INSTRUM B04 D16 J04 =DK 7900-105
Determination of creatine kinase isoenzyme(s) - 52549B/29
SMIN 16.06.75 SMITH & NEPHEW PLAS A97 D22 F07 =CA 1060-165
Synthetic gauze material prepn. - 02361Y/02
SNAM 06.06.75 SNAMPROGETTI SPA D15 =CA 1060-375
Desalination of sea water by evapn. - 92386X/50

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17th October 1979

CENTRAL PATENTS INDEX

: ALERTING BULLETINS - COUNTRY ORDER

64701B - 66321B	B36

EXAMINED JAPANESE APPLICATIONS

The advanced version of the alerting abstracts which will appear as the current version in Week B41 Alerting Bulletin (Country Order) are included in this week's consignment.

: ALERTING BULLETINS - CLASSIFIED

63144B - 64700B	B35

3: WEEKLY ALERTING BULLETIN INDEX BOOKLET

64701B - 66321B	B36

4: BASIC ABSTRACTS JOURNALS

61547B - 63143B	B34

6: BASIC ABSTRACTS ON MICROFILM

B Reel 28 00048 - 57999	B31

8: PROFILE BOOKLETS

59802B - 61546B	B33

PROFILE MANUAL CODE CARDS

Profile 2A
Section A

A2 146294 - 146298	B31
A10 146419 - 146438	B31

Profile 21A
Section H

14739	B31

Section J

20983, 20984	B31

Section N

03247 - 03274	B30

9: CS MICROFILM

A Reel 74 56703 - 58193	B32
A Reel 75 58194 - 58479	B32
A Reel 76 58480 - 59747	B32
B Reel 35 56277 - 58247	B32
C Reel 20 55708 - 58416	B32
D Reel 26 56397 - 58528	B32
E Reel 46 57401 - 58437	B32
F Reel 26 56592 - 58535	B32
G Reel 19 54997 - 58407	B32
H Reel 15 53062 - 57616	B31
J Reel 24 54335 - 56549	B31
L Reel 21 53124 - 56637	B31
M Reel 26 56108 - 58331	B32

10: COMPLETE SPECIFICATION BOOKS

B No. 1154 61547B - 61782B	B34
B No. 1155 61783B - 61838B	B34
B No. 1156 61839B - 63142B	B34
C No. 710 61547B - 61733B	B34
C No. 711 61734B - 63142B	B34

13: COMPANY CODE CARDS

59802B - 61546B	B33

17: MANUAL CODE CARDS

A 146287 - 146616	B31
B 59802B - 61546B	B33
C 59802B - 61546B	B33
D 24352 - 24413	B31
E 63569 - 63735	B31
F 32279 - 32329	B31
G 21731 - 21775	B31
H 14716 - 14746	B31
J 20948 - 20993	B31
K 06573 - 06579	B31
L 29076 - 29148	B31
M 35674 - 35760	B31

19: PUNCH CODE CARDS

B 54995B - 56265B (260+2 cards)	B30
C 54494B - 56264B (227 cards)	B30
E 50872B - 52528B	B28
E 52537B - 54486B	B29

Item 19 - The following reissued*/ reclassified cards are included in this week's consignment:

Section B - 28609B(3), 17552T*(card punched 67/12), 45222B*(card punched 7/11)

Section C - 14103B

Section E - 77136X* in B28

23: WEEKLY SDI TAPE

64701B - 66321B	B3
H5393B - H7411B	B3

25: RIN SERVICE

Screen Cards

B Nos. 001 - 040	B30
C Nos. 001 - 023	B30
E Nos. 001 - 032	B28
E Nos. 001 - 049	B29

NOTE: Section B Screen Card 039 is a replacement for 039/A25 and 040 is a replacement for 010/A43. Section E Screen Card 001 is issued for 91318A.

Weekly Indexes

B, C, E and Overall	B27

Sheets and Cards

52138 - 52215	B27

CS MICROFILM

EPO	EP20	OPI	5.9.79
CA	1740 - 1745	OPI	25.9.79
FR	2167 - 2170	OPI	20.7.79
DT DAS	596 - 597	OPI	20.9.79
DT OLS	3707 - 3714	OPI	27.9.79
SU	369 - 370		
UK NEW LAW	53 - 56	OPI	3.10.79

NOTE: French New Law Reels 2165/2166 have been delayed for technical reasons.

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17th October 1979

WORLD PATENTS ABSTRACTS PUBLICATIONS DESPATCHED THIS WEEK

Belgian Patents Abstracts		B37
British Patents Abstracts		B36
French Patents Abstracts		B36
German Patents Abstracts		B36
German Patents Gazette		B36
Japanese Patents Report	No. 37 Despatched 15.10.79	
Japanese Patents Gazette		B36
Netherlands Patents Report		B36
Soviet Inventions Illustrated		B36
U.S. Patents Report		B36
WPA Journals		B36
European Patents Report (Patent Nos. 3948 - 4257)	Issue No. 20	B38
PCT Patents Report		NIL

WORLD PATENTS INDEX

Gazettes Sections P, Q, R and Ch	B37 Despatched 17.10.79
Priority Index	B37 Despatched 17.10.79

WPI Priority Concordance Index (V111) 1979 B14-B26

WORLD PATENTS ABSTRACTS ON MICROFILM

Section Q Reel 1	00009 B01 - 35238 B18
Section R Reel 1	00002 B01 - 35220 B18
Section P Reel 1	00010 B01 - 35234 B18

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Central Patents Index
NEWSLETTER

17th October 1979

1979 No. 19

* 1. 1980 BROCHURES AND ORDER FORMS

Sets of brochures and order forms which were sent out at the end of September should by now have reached all subscribers; a further set of Order Forms is enclosed with this Newsletter.

Additional copies are available on request from our Washington Office (for United States Subscribers), from Nippon Gijutsu Boeki (for Japan) or from our Subscription Department (for all other countries).

To ensure continuation of your subscription and the incorporation of any changes for 1980 you are urged to submit completed order forms as soon as possible. Should you require advice or information please do not hesitate to contact us.

* 2. ELECTRICAL PATENTS INDEX

Plans for Derwent's new service "Electrical Patents Index" (EPI) are now at an advanced stage with the first issue scheduled for January.

An advance copy of the EPI Users Manual and a further copy of the World Patents Abstracts brochure are being despatched to all subscribers this week. Further copies and additional information may be obtained from Derwent in London.

Copies for Japanese subscribers are being despatched this week in bulk to Nippon Gijutsu Boeki for onward mailing to subscribers.

3. 1979 CENTRALISED INSTRUCTION CLASSES

Centralised Instruction Classes in Washington DC will shortly be held as detailed below.

In recent weeks a large number of new requests and alterations to previous requirements have been received. These are being acknowledged in writing, but should notification not arrive in time delegates can safely assume that they may attend. For this reason details of location and times are given here.

WASHINGTON D. C.

Holiday Inn National Airport, 1489 Jefferson Davis Highway,
Arlington, VA. 22202. Tel. (703) 521-1600.

Monday Oct. 22nd	IC3	Introductory Coding Sections BCE
Tuesday Oct. 23rd	IC5	Coding & Retrieval Sections BCE
Wednesday Oct. 24th		
Thursday Oct. 25th	IC9	Online Instruction Sections BCE
Friday Oct. 26th	IC10	Online Instruction (Except Sections ABCE)

Olde Colony Motor Lodge, North Washington and First Streets, Alexandria, VA 22313 Tel. (703) 548 6300. Contact Areli Ann Woody

Monday Oct. 29th	IC2	Introductory Coding Section A
Tuesday Oct. 30th	IC4	Coding & Retrieval Section A
Wednesday Oct. 31st		
Thursday Nov. 1st	IC8	Online Instruction Section A
Friday Nov. 2nd	IC1	General Instruction

Sheraton National Motor Hotel, Columbia Pike and Washington Blvd., Arlington VA 22204. Tel. (703) 521 1900.

Monday Nov. 12th	IC7	Advanced Coding & Retrieval Sections BCE
Tuesday Nov. 13th		
Thursday Nov. 15th	IC6	Advanced Coding & Retrieval Section A
Friday Nov. 16th		

Cost for centralised classes will be £20 ($50) per person per day except for online classes where the costs are £30 ($75) per attendee per day. Classes will commence at 9.00 a.m. on each day. Participants are asked to bring their own copies of relevant Instruction Manuals for use at these classes.

*4. U.S. OFFICE

Mr. Christopher Medcalf, Assistant Marketing Manager is at present available in our U.S.A. Office to answer subscribers' queries until Friday 2nd November. From Monday 5th November to Friday 16th November Dr. Brian Gore, Marketing Manager, will replace Mr. Medcalf.

Subscribers are reminded that the address of our USA Office is Suite 605, 1735 Jefferson Davis Highway, Arlington, VA 22202, telephone number (703) 521 7977, telex number (international only) 248416 DERW.

5. PORTUGUESE IPCs

The Portuguese Patent Office has commenced to assign International Patent Classes to its patents, starting with those published 20.9.79 (Derwent Week B41). Research Disclosure abstracts are now the only "country" which does not assign IPCs.

*6. NEW CHEMICAL CODE

Full details of Derwent's proposals for the new code were circulated to all members of Subscriber Committee No. 5 at the beginning of September. Their comments and suggestions are now being collated, and these will be discussed at the next meeting of the Coding sub-committee which will be held on the 25th to 26th October in London.

*7. MAGNETIC TAPE PRODUCTS 1980

A new Instruction Manual - No. 7 - has just been printed and a copy sent to all existing subscribers to magnetic tape products. This gives a full description of the tape products available in 1980 which, in several ways, differ from those available previously.

A limited number of further copies are available, on request, from our Data Processing Division.

* 8. PLASDOC (CPI SECTION A) KEYTERMS

We have to announce that due to a fault in computer processing, all Plasdoc Multipunch, Key Terms and Key Serials as applied from Week B06 to date are suspect.

All Punch Codes and Terms generated by Key Serials 2698-2857 (that is, 'Applications') since 09948B are missing from both online files (SDC and InfoLine) and from the Multipunch Search Files.

We are doing all we can to restore the data as soon as possible, but in the meantime, all searches done in the last 2/3 months involving these concepts should be treated with suspicion for 1979 (B series) Accession Numbers.

* 9. WPI ONLINE FILE POSITION

	Loaded to	Awaiting Loading at SDC
Basics/Equivs.	B31 (7907)	B32-B35
Manual Codes	B29 (7906)	B30-B33
Multipunch A*	B18 (7904)	B10-B22
Plasdoc Key Terms*	B10 (7903)	B11-B13, B14-18, B19-B22
Multipunch B, C, E	B17 (7904)	B18-B21, B22-B26

*N.B. Item 8.

SDC have experienced severe hardware problems in the last 2 weeks, and this accounts for the delay in processing outstanding updates. All the above are expected to be cleared by the time this Newsletter is received.

C

CENTRAL PATENTS INDEX 1980 — ORDER FORM E

C

Invoicing Address (if different) ____________ Mailing Address ____________

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____________ As from commencement of ______ quarter, 1980 Edition ______ Date ______

BASIC SUBSCRIPTION

Full Basic Subscription to any Section gives the right to receive any CPI material, **marked with or without an asterisk**, relating to that Section, except Item 7 where a 10 unit minimum is required

Partial Basic Subscription to any Section gives the right to select only material which is **not marked with an asterisk**, i.e. Alerting Bulletins, certain printed and COM Indexes and/or Complete Specification Microfilm relating to that Section

Completion of Table I: Against any Section required, mark in Column Z whether Partial or Full Basic Subscription is required by repeating the number of Basic Units shown in Column Y in the corresponding box in Column Z.

Conversion of Basic Units to Annual Basic Subscription Cost From the total number of Basic Units at the foot of Table I read off from Table II the annual Basic Subscription Cost and enter it in the space provided. Items marked § are also included on the 1980 WPI Order Form.

TABLE I

CPI SECTION			Subscription Units	
			Y	Z
A	Plasdoc	Partial	1	
		Full	4	
B	Farmdoc	Partial	1	
		Full	4	
C	Agdoc	Partial	½	
		Full	2	
D	Food Detergents	Partial	½	
		Full	1	
E	Chemdoc	Partial	1	
		Full	4	
F	Textiles Paper	Partial	½	
		Full	1	
G	Printing Photograph	Partial	½	
		Full	1	
H	Petroleum	Partial	½	
		Full	1	
J	Chem Eng.	Partial	½	
		Full	1	
K	Nucleonics Explosives	Partial	½	
		Full	1	
L	Refractory Ceramics	Partial	½	
		Full	1	
M	Metallurgy	Partial	½	
		Full	1	

TOTAL UNITS ☐

TABLE II

UNITS	VALUE £	UNITS	VALUE £
½	730	11½	15850
1	1450	12	16440
1½	2170	12½	1695
2	2895	13	17460
2½	3625	13½	17975
3	4345	14	18490
3½	5065	14½	19005
4	5790	15	19520
4½	6520	15½	20020
5	7240	16	20530
5½	7960	16½	2095
6	8685	17	21380
6½	9415	17½	21810
7	10135	18	22230
7½	10860	18½	22670
8	11580	19	23095
8½	12200	19½	23515
9	12810	20	23940
9½	13390	20½	24340
10	13995	21	24770
10½	14615	21½	25165
11	15230	22	25570

ANNUAL BASIC COST £

MATERIALS SUBSCRIPTION

The number of copies required should be marked in the dotted line columns and the total cost for each item in the boxed columns. The sum of th six sub-totals should be shown at the end in the total materials cost box. Subscribers outside the UK should add a further 5% postage surcharge to give the total annual materials cost. A 40% surcharge is added for cartridging of microfilm. †Tick as required.

1 ALERTING BULLETINS (COUNTRY ORDER)

A	£52	
B	£13	
C	£12	
D	£21	
E	£33	
F	£25	
G	£15	
H	£15	
J	£24	
K	£16	
L	£23	
M	£36	

2 ALERTING BULLETINS (CLASSIFIED)

A	£48	
B	£12	
C	£11	
D	£18	
E	£28	
F	£23	
G	£13	
H	£12	
J	£22	
K	£12	
L	£21	
M	£31	

3 WEEKLY ALERTING BULLETIN INDEX BOOKLET

A M	£20	

SUB TOTAL ☐

4 BASIC ABSTRACTS JOURNALS*

A	£106	
B	£41	
C	£23	
D	£28	
E	£80	
F	£45	
G	£34	
H	£26	
J	£39	
K	£38	
L	£30	
M	£54	

6 BASIC ABSTRACTS ON MICROFILM*

A	£65	
B	£24	
C	£14	
D	£28	
E	£48	
F	£30	
G	£30	
H	£30	
J	£30	
K	£15	
L	£28	
M	£48	
†3M ☐	Kod ☐	

7 COMPLETE SERIES BAJ MICROFILM*

A M	£250	
†3M ☐	Kod ☐	

SUB TOTAL ☐

8 PROFILE BOOKLETS*
details overleaf

.. £30	

9 COMPLETE SPECIFICATIONS ON MICROFILM

A	.. £1170	
B	.. £400	
C	.. £380	
D	.. £450	
E	.. £785	
F	.. £575	
G	.. £400	
H	.. £400	
J	.. £575	
K	.. £270	
L	.. £550	
M	.. £575	
†3M ☐	Kod ☐	

10 COMPLETE SPECIFICATION BOOKS*

B	.. £495	
C	.. £250	

11 CUMULATIVE PATENT NUMBER INDEX
Quarterly

A M	£16	

SUB TOTAL ☐

12 CUMULATIVE ACCESSION NUMBER INDEX §
Quarterly

A-M .. £20	

13 COMPANY CODE CARDS*

A	.. £300	
B	.. £150	
C	.. £85	
D	.. £93	
E	.. £230	
F	.. £160	
G	.. £135	
H	.. £105	
J	.. £115	
K	.. £80	
L	.. £100	
M	.. £190	

14 SECTIONAL BASIC PATENTEE INDEXES AS COM FICHE*
1979 + 3 quart. 1980

A	£21	
B	£8	
C	£8	
E	£13	
DFG	£19	
HJK	£14	
LM	£23	

SUB TOTAL ☐

17 MANUAL CODE CARDS*

A	.. £195	
B	.. £190	
C	.. £100	
D	.. £51	
E	.. £125	
F	.. £93	
G	.. £80	
H	.. £62	
J	.. £80	
K	.. £50	
L	.. £63	
M	.. £123	

18 MANUAL CODE CARDS ON MICROFILM*
1978 + 1979

A	£220	
B	£180	
C	£130	
D	£65	
E	£175	
F	£100	
G	£75	
H	£45	
J	£65	
K	£40	
L	£110	
M	£125	
†3M ☐	Kod ☐	

SUB TOTAL ☐

19 PUNCH CODE CARD

B	.. £185	
C	. £135	
E	£370	

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24 COM INDEXES AS MICROFICHE §
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PRIORITY	£20	
IPC	£70	
PATENT NO	£55	
ACCESSION NUMBER	£20	

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C	£115	
E	£220	
BCE	£360	

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2	Polym, catalysts, processes	
3	Nat. polymers, polymer forms	
4	Addition Polymers I	
5	Addition Polymers II	
6	Condensation Polymers I	
7	Cond. Pols. II, Inorganic pols.	
8	Polymer additives	
9	Processing, testing, etc.	
10	Adhesives, binders, coatings	
11	Fibres, film, clothing, etc.	
13	Packing, civil eng. transport	
14	Other Plasdoc Applications	
15	Steroids: Natural Products	
16	Heterocyclics	
17	Organo-Si, P, metallics	
18	Organic dyestuffs	
20	Fuels, lubricants, etc.	
21	Catalysis	
21A	Manual Code Cards for Profile 21	
	TOTAL	

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Ch : CHEMICAL	180		

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Weekly

ALL SECTIONS	45		

ACCESSION NUMBER

Quarterly

Ch : CHEMICAL §	20		

INDEXES AS COM

Microfiche only

1979 + Weeks 1-13, 1-26, 1-39 of 1980

PATENTEE INDEX

P : GENERAL	30		
Q : MECHANICAL	35		
R : ELECTRICAL	35		
Ch : CHEMICAL §	50		

SUB-TOTAL

IPC INDEX

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Q : MECHANICAL	50		
R : ELECTRICAL	50		
Ch : CHEMICAL §	70		

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R : ELECTRICAL	10		
Ch : CHEMICAL §	20		

PATENT NO. FAMILY

PQR : GEN/MECH/EL	50		
Ch : CHEMICAL §	55		

PRIORITY INDEX

PQR : GEN/MECH/EL	25		
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Ch: CHEMICAL	220		
PQEI: GEN/MECH/ELEC	165		

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Ch: CHEMICAL	170		
PQEI: GEN/MECH/ELEC	270		

European Patents Report

Ch/PQEI	290		

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Complete Series Abstracts Microfilm	23		
Tick 3M . . Kodak . . cartridge 20% surcharge			

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Ch: CHEMICAL	160		

German Patents Abstracts (DAS)*

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PQEI: GEN/MECH/ELEC	105		

German Patents Gazette (OLS)*

Ch: CHEMICAL	230		
PQ: GEN MECH	190		
EI: ELECTRICAL	195		

Japanese Patents Report (Exam.)

Ch: CHEMICAL	245		

Japanese Patents Gazette (Unexam.)

Ch: CHEMICAL	390		

Netherlands Patents Report*

Ch: CHEMICAL	220		

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PCT Patents Report

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Complete Specifications on Microfilm	80		
Complete Series Abstracts Microfilm	12		
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Soviet Inventions Illustrated*

Ch: CHEMICAL	130		
PQ: GEN MECH	135		
EI: ELECTRICAL	130		

United States Patents Abstracts

Ch: CHEMICAL	160		
PQ: GEN/MECH	120		
EI: ELECTRICAL	120		

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DR- 09.12.77 SODRA SKOGSAGARNA D22 F09 =SF 7803-738
Feed arrangement of continuous sheets of pulp to dry-laying machine - 44035B/24
QUI 27.03.75 SQUIBB E R & SONS INC B02 D16 *US 4164-445
Prepn. of penicillin(s) by side chain precursor fermentation - 64601B/35
AD 15.02.78 STANDARD OIL CO (IND) A13 B07 D21 G02 (A14 A82 A96 97) #NL 7801-707
Crosslinked maleic anhydride-indene copolymer - 49747A/28
AU 12.01.78 STAUFFER CHEMICAL CO D12 =SW 7900-149
Filler for minced meat prods. - 52535B/29
ER 25.02.76 STERLING DRUG INC B03 C02 D21 =OE 7701-297
Bis-amino-pyridinium-alkylene or xylylene salts - 61184Y/35
ER= 21.06.76 STERLITAMAK PETROCH D13 E14 =OE 7704-269
Catalyst for hydrogenolysis of dimethyl-dibutyl hydroxy-benzylamine - 00005A/01
RK 15.02.78 STORK PMT BV D12 *NL 7801-712
Device for cutting around anus and to breast of fowl - 64159B/35
TUD 13.02.78 STUDIENGES KOHLE MBH D13 =GB 2014-425
Decaffeination of coffee - 50888B/28
TUD 13.02.78 STUDIENGES KOHLE MBH D13 =NL 7901-126
Decaffeination of coffee - 50888B/28
ULZ 24.05.76 GEBR SULZER AG A88 D15 =CH -612-094
Water separation from dissolved substances - 86834Y/49
UMO 09.08.72 SUMITOMO CHEMICAL KK B04 D16 =J7 9022-518
Interferon inducing nucleic acid prepn. - 55903V/31
UMO 28.12.77 SUMITOMO CHEMICAL KK A88 D15 J01 =J5 4090-081
Semipermeable membranes prodn. from acrylonitrile polymers - 52848B/29
UNR 28.12.74 SUNTORY LTD A97 D16 =CA 1060-257
Adsorption agents for polyphenols in wines, beers, juices - 54514X/29
VSO 25.04.75 SVENSKA SOCKERFAB AB D15 =CH -612-160
Purifying biological effluent rich in carbon hydrates or protein - 68790X/37
WIF 16.08.74 SWIFT & CO B07 D16 G05 J04 =CA 1060-364
Encapsulating eg dyes, drugs, chemicals, adhesives etc - 31506X/17
YLU 08.07.77 SYLVACHEM PTY LTD A41 D23 E17 G02 *US 4164-505
Conjugating non-conjugated unsatd. fatty acids - 64634B/35
YMA- 20.01.78 SOC SYMAC A31 D14 J02 =BR 7900-358
Continuous mixer for particulate solids and liquids - 54500B/30

ABA- 09.02.78 FAB TABAC REUNIES D18 (D16) =NL 7900-761
Tobacco treatment for selective nitrate and nitrite decomposition - 82495A/46
AIH- 08.04.75 TAIHEIYO KOGYO KK A92 D22 =J5 1133-439
Sterilisation of plastic-packaged food - 64134B/35
AIH- 08.04.75 TAIHEIYO KOGYO KK A92 D22 *J7 9022-486
Sterilisation of plastic-packaged food - 64134B/35
AIS 28.12.77 TAISHO PHARMACEUT KK B04 D16 *J5 4092-697
Enzyme inhibitor M-96 - 64048B/35
AKE 18.11.77 TAKEDA CHEMICAL IND KK B02 C02 D16 =FR 2409-306
Macrocyclic antibiotic C-15003 P-4 - 40871B/22
AKE 18.11.77 TAKEDA CHEMICAL IND KK B02 C02 D16 =FR 2409-307
Macrocyclic antibiotic C-15003 P-3 - 40873B/22
AKE- 08.09.72 TAKECHI CHLORELLA D16 =J4 9047-548
Lactobacillus-contg. jelly prodn. - 64139B/35
AKE- 08.09.72 TAKECHI CHLORELLA D16 *J7 9022-500
Lactobacillus-contg. jelly prodn. - 64139B/35
AKJ 27.12.77 TAISEI CONSTRUCTION KK D15 L02 *J5 4089-973
Solidifying sludge of high water content - 63616B/35
TANA 25.01.68 TANABE PHARMACEUTICAL KK B05 D16 E16 *J7 9022-513
L-Isoleucine prodn. in improved yield - 64141B/35
TARK/ 26.07.74 TARKHANOVA L S C01 D13 E11 *SU -633-847
Urea-phosphate feed and preserving additives prepn. - 64386B/35
TATL 16.11.77 TATE & LYLE LTD D16 (D13 D17 D21) =FR 2409-309
Polysaccharide prepn. from Xanthomonas - 39365B/21
TECH= 03.05.76 TECH RES INST D15 *SU -633-587
Drainage water neutralisation control at heat and power station - 64266B/35
TECN- 03.10.75 TECNECO SPA D15 J01 =OE 7607-312
Sepn. of metallic mercury from solns. - 25588Y/15
TEEP 01.03.76 TEE PAK INC A97 D12 =CA 1060-258
Wetting fluid for synthetic sausage skins - 63039Y/36
TEEP 18.04.78 TEE PAK INC A32 D12 (A11 A97) *US 4164-536
Forming fibrous tube for sausages - 64645B/35
TEKN- 12.12.77 TEKNOTERM SYST D15 =SF 7803-791
Optimising heat energy exploitation in sewage treatment plant - 45952B/25
TINI= 18.09.74 TIN IND RES INST D15 J01 *SU -633-548
Laterally-oscillating trough - 64227B/35
TOBA= 03.08.76 TOBACCO MAKHORKA D18 *SU -633-517
Preparing tobacco before baling - 64213B/35
TOPF- 18.09.75 TOPFER GMBH B04 D13 (D16) =OE 7606-731
Active peptides for oral or rectal admin. - 07599Y/05
TOPF/ 22.07.75 TOPFER H J D11 =DS 2532-652
Dumpling dough prepn. from partly cooked potatoes - 07887Y/05
TOPP 21.11.77 TOPPAN PRINTING KK D13 =FR 2409-009
Preserving vegetables and fruit during storage - 40838B/22
TOXN 28.12.77 TOYO BREWING KK D17 (D16) =J5 4092-909
Amino-sugars obtd. by fermentation of Streptomyces sp. - 51269B/28
• TOXW 27.12.77 TOYO INK MFG KK B04 D13 E13 (B03) *J5 4090-199
Extracting and purifying plant ingredients from e.g. stevia - 63709B/3
• TOXW 27.12.77 TOYO INK MFG KK B04 D13 E13 (B03) *J5 4090-200
Extn. and purificn. of plant ingredients e.g. sweetener from liquorice 63710B/35
TREE- 31.01.77 TREE TOP INC D13 =CA 1060-304
Apparatus for loosening fruit peel - 85868A/47

• UCHI- 29.12.77 UCHIDA SHOTEN KK D18 E21 *J5 4092-601
Leather dyeing method - 64018B/35
UENO 17.03.77 UENO SEIYAKU OYO KE D13 E17 =DS 2749-751
Preserving cheese preparations with powder preservative - 36606A/21
UGIN 20.01.75 UGINE KUHLMANN D15 E14 =CH -612-159
Substd phenol-activated hydrazine compsn - 58172X/31
UGIN 14.12.77 UGINE KUHLMANN A91 D15 E36 J01 =J5 4092-592
Iodine removal from gaseous mixts. or aq. solns. - 47541B/26
• UKSO- 17.02.78 UK SEC SOCIAL SERV B04 D16 *GB 2014-452
Antigenically active bacterial cell envelope prepn. - 63491B/35
UNCO- 22.10.74 UNION COOP AGRICOLE B04 D13 (D21) =CH -612-439
Glycoprotein and sialic acid (N-acetyl-neuraminic) - 31876X/18
UNIC 27.03.74 UNION CARBIDE CORP D12 =OE 7800-005
Shirred sausage casing stick with end plug - 47636W/28
UNIC 26.03.75 UNION CARBIDE CORP A97 D12 =OE 7602-188
End closure for shirred collagen casing - 53753X/28
UNIC 14.05.76 UNION CARBIDE CORP A97 D12 =OE 7703-445
Mechanism for stuffing food, e.g. sausage meat, into skin - 83306Y/47
UNIC 05.10.77 UNION CARBIDE CORP D12 =US 4164-057
Food stuffing device for skins - 83304Y/47
UNIC 15.12.77 UNION CARBIDE CORP A97 D12 =SF 7803-813
Tubular cellulosic wrapping, esp. for sausages - 45696B/25
UNIL 28.03.74 UNILEVER NV D13 =OE 7502-281
Industrial mfr of iced lollies on sticks - 67307W/41
UNIL 16.11.77 UNILEVER NV A97 D25 E16 F06 =FR 2409-344
Fabric softening compsn. for cotton and synthetic textiles - 39348B/21
UNIL 16.11.77 UNILEVER NV A97 D25 E16 F06 =SF 7803-489
Fabric softening compsn. for cotton and synthetic textiles - 39348B/21
UNIL 18.11.77 UNILEVER NV D25 E19 (E37) =FR 2409-303
Aq. bleaching compsn., esp. hypochlorite, coloured by pigment - 38987B/21
UNIL 18.11.77 UNILEVER NV D25 E19 (E37) =SF 7803-502
Aq. bleaching compsn., esp. hypochlorite, coloured by pigment - 38987B/21
UNIL 07.12.77 UNILEVER NV B06 D21 E34 (E33) =SF 7803-685
Anticaries tooth-paste contg. sodium mono:fluorophosphate - 44416B/24
UNIL 09.01.78 UNILEVER NV A97 D25 (A25) =SW 7900-160
Aq. liq. detergent compsn. free from active salt additives - 50886B/28
UNIL 12.01.78 UNILEVER NV D24 =BR 7900-155
Deodorising textile washing compsn. - 54834B/30
UNIL 12.01.78 UNILEVER NV D21 (D25) =BR 7900-156
Washing compsn. contg. detergent and deodorant - 54833B/30
UNIL 12.01.78 UNILEVER NV D24 =DK 7800-659
Deodorising textile washing compsn. - 54834B/30
UNIL 12.01.78 UNILEVER NV D21 (D25) =DK 7800-660
Washing compsn. contg. detergent and deodorant - 54833B/30
UNIL 12.01.78 UNILEVER NV D24 =NO 7800-489
Deodorising textile washing compsn. - 54834B/30
UNIL 12.01.78 UNILEVER NV D21 (D25) =NO 7800-490
Washing compsn. contg. detergent and deodorant - 54833B/30
UNIL 12.01.78 UNILEVER NV D24 =SW 7801-712
Deodorising textile washing compsn. - 54834B/30
UNIL 12.01.78 UNILEVER NV D21 (D25) =SW 7801-713
Washing compsn. contg. detergent and deodorant - 54833B/30
UNIL 19.01.78 UNILEVER NV D21 E13 =BR 7900-254
Cleansing bar contg. water-soluble acyl isethionate salt - 56544B/31
UNIL 14.02.78 UNILEVER NV A97 D25 =BE -874-168
Detergent and esp. dishwashing compsn. - 61747B/34
UNIL 14.02.78 UNILEVER NV A97 D25 =NL 7901-031
Detergent and esp. dishwashing compsn. - 61747B/34
• UNIL 15.02.78 UNILEVER NV A32 D22 *DT 2806-402
Rendering plastics foil water permeable - 63269B/35
UNIL 15.02.78 UNILEVER LTD A96 D22 =GB 2014-508
Absorbent bandage with perforated facing sheet - 61693B/34
UNIL 15.02.78 UNILEVER NV A32 D22 =NL 7901-158
Rendering plastics foil water permeable - 63269B/35
UNIL 15.02.78 UNILEVER NV A96 D22 =NL 7901-159
Absorbent bandage with perforated facing sheet - 61693B/34
• UNIL 17.02.78 UNILEVER NV D13 *GB 2014-426
Emulsifier mixt. for artificial cream - 63487B/35
• UNIL 20.02.78 UNILEVER LTD D25 *GB 2014-507
Mfg. striped detergent bars - 63500B/35

*UNIL 02.03.78 UNILEVER NV D25 E33 *BE -874-420
Sodium aluminosilicate aq. suspension for detergent mfr. - 63167B/35
UNIO 18.01.77 UCB SA B02 C02 D13 =OE 7800-320
6-Amino-2-spiro-heterocyclyl-penam carboxylic acids - 53859A/30
UNVO 27.03.74 UOP INC A88 D15 J01 (A11) =CA 1060-285
Semipermeable membrane rejection performance improvement - 28859W/17
*UYNY- 09.02.78 NEW YORK UNIV B04 D16 *WP 7900-609
Activating supports for covalent coupling of ligands - 64699B/35

VENT- 22.11.77 VENTURATOR LTD D15 J02 =FR 2409-083
Submerged gas injector to aerate waste water etc. - 47752A/27
VTOP/ 21.11.77 VAN DEN TOP H D16 =FR 2408-997
Mushroom harvesting machine - 40908B/22
VYSO 10.01.78 VYSOKA SKOLA STROJ TEXT A97 D16 #DT 2800-926
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

WABU- 12.01.76 WABU-ANSTALT D15 =OE 7607-980
Water purification system - 52543Y/30
*WADL 03.11.77 WADLEY RES INST BLOOD BK B04 D16 J04 *US 4164-449
Detecting microbial pathogens in lysed blood sample - 64602B/35
WAKP 07.06.73 WAKO PURE CHEM IND KK B04 D16 J04 =J7 9022-120
Monoamine oxidase detmn. in biolog. samples - 38452W/23
WATE- 26.12.73 WATER POLLUTION CON D15 J01 =CA 1060-351
Fine sieving drum for solid matter suspended in water - 48078W/29
WEAR- 29.12.75 WEAR-EVER ALUMIN IN D14 =CH -612-072
Low voltage dispensing gun for foodstuff compsns., eg dough - 79109X/42
WEIS- 23.12.75 GEBRUDER WEISS KG D15 (D16) =DS 2558-255
Continuous compositing of organic waste and/or sludge - 48922Y/28
*WELA 16.02.78 WELLA AG D21 E14 (E32) *DT 2806-603
Compsn. for dyeing eyebrows, eyelashes and beards - 63279B/35
WELL 01.12.77 WELLCOME FOUNDATION LTD B04 D16 =SF 7803-663
In vitro propagation of rota-viruses - 42416B/23
WIEL- 09.02.78 FA WIELAND T H A96 D21 =GB 2014-456
Dental device for impressions or holding crowns during insertion - 61613B/34
WILL/ 18.03.77 WILLISCH H D16 =OE 7801-213
Aerating tunnel supports for compost heap of decomposing waste - 67086A/38
WINT 11.02.78 WINTERSHALL AG D16 E13 H01 =NL 7900-992
Oil extn. by flooding with water - 61639B/34
WINT 11.02.78 WINTERSHALL AG D16 E13 H01 =NL 7900-992
Oil extn. by flooding with water - 61639B/34
*WLSO 17.08.76 WILSON E & SON LTD D18 *GB 1551-412
Grading skins by measuring thickness and visually assessing grade - 63482B/35
WOBI 02.05.77 WORTHINGTON BIOCHEM CORP B04 D16 #CA 1060-323
Turbidity test for endotoxins - 55574Y/31
*WOOL= 08.07.74 WOOL IND RES INST D23 F01 (D15) *SU -633-819
Primary wool treatment aq. waste purificn. - 64360B/35
WORL- 21.11.77 WORLD POTATO CORP D13 =FR 2409-017
Precooked potato prods. - 24002B/13

YAMA/ 23.07.77 YAMAGUCHI M D13 =J7 9022-499
Extn. of egg-shell membrane protein used for heavy metal removal - 24712B/13
*YGOS 29.12.77 YAMAMOTO KAGAKU GOS KK D18 E21 *J5 4092-601
Leather dyeing method - 64018B/35
*YOSH/ 31.10.75 YOSHIMURA Y D18 *CA 1060-306
Processing raw leaf tobacco - 63204B/35

ZAID 31.05.77 ZH BISEIBUTSU KAGAKU KEN B04 D16 #US 4164-567
High purity macromomycin recovery from fermentation soln. - 57009X/30
ZARN- 18.11.77 ZARNACH GMBH D15 =FR 2409-233
Drain water biological cleaning equipment - 58889A/33
ZELL 31.03.76 PWA PAPIERWKE WALDH D15 E34 F09 J01 (E19 F02) =OE 7702-246
Antifoam contains aliphatic hydrocarbon (deriv.) and alkali salt - 72697Y/41

R BCD
926-458 R07+
017-157 R24
254-136 S45
899-265 T20
3697-648 T43
2017-159 B35

8-S D
2045-337 S14
2061-766 S39
1301-316 T52
-548-777 V26
2045-337 B35

4-S BCD
-766-606 S45
7105-286 S47
2121-248 S47
6006-944 T02
7102-820 T06
2092-128 T16
-518-360 T20
1285-163 T32
-377-991 V15
3853-991 V52+
-981-199 X04
7103-108 X11
-153-272 Y24
2121-248 A26
9022-520 B35

58-S DE
-767-734 S48+
7107-082 S50
2119-718 S50
2026-240 S50
6007-600 T03
2090-369 T14
2112-485 T43
1337-858 U47
-948-102 V24
-566-786 W43+
2026-240 B35

11-T DE
7108-514 T05
2035-845 T06
-770-131 T06
2101-792 T27
2035-845 B35

763-T D
2153-848 T21
7115-215 T21
A 7107-156 T32
2113-532 T42
3726-208 U17
B 1323-249 U28
2153-848 B35

866-T DE
-777-194 T27
7117-479 T28
2162-820 T29
7013-417 T31
A 7108-447 T41
2119-177 T48
B 1320-284 U24
H -561-168 W21
A -967-979 W22
U -440-823 W30
W 7500-526 W41
H -570-454 X07
L -149-483 X24
S 3978-108 X37
4090-155 B35

689-U D
3005-030 U07
9022-491 B35

105-U BD
L 7212-445 U15
T 2246-002 U16
E -789-195 U17
R 2153-443 U27
A 7206-435 U27
8039-687 U31
S 3838-007 V40
B 1404-933 W36
-152-562 Y15
7018-794 Y24
S 2246-002 Y41
A 1020-894 Y48
H -612-444 B35

31541-U D
BE -792-473 U22
NL 7116-966 U26
DT 2260-119 U26
FR 2162-603 U40
J4 8075-754 U51
US 3865-959 W08
GB 1398-179 W25
CA -994-160 X33
J7 7002-987 Y07
DS 2260-119 B35

58439-U AD
DT 2212-623 U40
BE -796-611 U40
NL 7303-570 U40
FR 2176-104 U52
DL -102-728 V10
J4 9004-704 V12
GB 1403-941 W35
OE 7302-248 X03
US 3956-380 X21
CH -577-551 X34
SU -511-869 Y17
CA 1008-592 Y17
DS 2212-623 B35

69497-U AD
DT 2319-716 U46
FR 2180-945 V04
FR 2180-944 V04
J4 9018-142 V20
J4 9020-253 V20
CH -567-414 W46
GB 1422-337 X05
CH -570-161 X07
J7 9021-858 B35

08657-V BD
NL 7309-709 V05+
J4 9051-298 V29+
DT 2330-741 W03
OE 7306-117 W44+
CH -588-491 Y29+
DT 2234-202 V05
DT 2302-772 V31
CA 1022-867 A02
OE 7505-174 A11
J7 9022-517 B35+

09630-V D
DT 2332-668 V06
NL 7309-871 V06
FR 2192-773 V15
DL -105-119 V28
J4 9080-100 V40
GB 1427-776 X11
CS 7305-093 X17
HU T011-381 X24
CA 1017-329 Y39
SU -633-448 B35

15394-V CDEH
US 3792-084 V08
US 4164-574 B35

21177-V D
CH -546-383 V12
US 3811-494 V22
GB 1371-726 V43
NL -152-745 Y20
DS 2139-917 B35

21258-V D
DT 2243-288 V12
DS 2243-288 B35

35328-V DF
J4 9006-196 V19
J7 9022-514 B35

50460-V ADE
DT 2262-829 V28
DS 2262-829 B35

55903-V BD
J4 9035-586 V31
J7 9022-518 B35

68487-V ADFJ
J4 9016-675 V39
J7 9022-430 B35

19290-W CD
BE -821-211 W12
DT 2449-160 W18
NL 7413-733 W19
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SW 7413-095 W24
DK 7405-417 W29
FR 2247-983 W30
J5 0070-542 W32
US 4016-295 Y15
OE 7408-199 Y35
GB 1484-264 Y35
OE 7701-918 A44
CA 1043-152 A50
IT 1030-705 B27
CH -612-328 B35

19395-W DF
DT 2257-766 W12
CS 7108-241 W31
US 4124-033 A46
DS 2257-766 B35

26541-W BDE
J4 9124-287 W16
J7 9022-515 B35

28859-W ADJ
US 3877-978 W17
BE -826-745 W32
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J5 0140-378 X02
DK 7501-332 X02
FR 2265-810 X03
BR 7501-705 X04
ZA 7501-598 X17
DS 2512-982 X44
GB 1502-163 A08
IL --46-824 A09
J7 8013-431 A22
CA 1060-285 B35

34604-W BD
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BE -822-127 W22+
NL 7414-716 W22+
SW 7414-251 W27+
FR 2250-537 W35+
GB 1488-859 Y41+
OE 7409-043 A22
CH -604-712 A41+
CA 1060-346 B35+

38027-W BCD
DT 2455-884 W23+
BE -822-616 W24+
NL 7415-432 W24+
SW 7414-706 W29+
NO 7404-222 W30+
DK 7406-113 W35+
FR 2252-100 W37+
J5 0089-392 W46
J5 0083-383 W51
J5 0083-385 W51
J5 0083-384 W51
ZA 7407-513 X13
J5 1023-286 X15
GB 1449-420 X38+
HU T012-237 X43+
US 4007-177 Y07+
CH -611-906 B29+
J7 9017-755 B30
CA 1060-432 B35+

38452-W BDJ
J5 0015-599 W23
J7 9022-120 B35

40938-W BD
BE -822-843 W25+
NL 7415-037 W26+
SW 7415-324 W31+
DK 7406-370 W35+
SF 7403-513 W36+
J5 0089-588 W37+
FR 2254-026 W39+
AR -201-067 W40+
DL -115-759 X01+
DT 2439-348 X11+
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GB 1435-400 X20+
DT 2361-169 W26
HU T012-561 X50+
OE 7409-740 Y01+
DK 7604-668 Y05+
CS 7408-375 Y10
IL --46-073 Y26+
DS 2439-348 Y38
DS 2361-169 A04
CS 7602-701 A43
IT 1026-827 B01+
CA 1044-582 B02+
SU -613-731 B19
US 4164-448 B35+

47636-W D
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BE -827-211 W42
NL 7503-631 W42
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SW 7503-575 W47
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SF 7500-926 X04
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ZA 7501-927 X17
SF 7602-396 X52
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CH -590-613 Y36
GB 1495-342 Y50
DK 7704-012 A01
CH -596-772 A15
CH -596-771 A15
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OE 7502-319 B09
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CA 1055-770 B25
CA 1055-771 B25
OE 7800-005 B35

47688-W BCD
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DK 7500-017 W39
SF 7500-017 W40
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GB 1453-677 X44
AR -203-585 X46
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CA 1033-739 A28
CH -602-670 A33
CS 7500-116 A51
SU -633-478 B35

48078-W DJ
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GB 1497-866 A02
CA 1060-351 B35

57172-W ADE
BE -825-480 W35
NL 7501-780 W36
DT 2407-306 W36
J5 0116-481 W45
FR 2261-272 W49
GB 1443-686 X30
US 3991-062 X47+
CH -605-771 A48
CA 1055-947 B25
CH -612-183 B35

59408-W DEM
J5 0006-600 W36
J7 9021-840 B35

62495-W BDE
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NL 7411-659 W39
J5 0117-763 W46
FR 2263-221 W52
GB 1418-600 W52
US 3978-008 X37
CH -600-796 A28
J7 9013-488 B26
DS 2440-024 B35

64049-W DEG
DS 2418-974 W39
BE -828-033 W45
NL 7504-530 W45
J5 0142-524 X02
FR 2268-001 X06
DL -117-210 X14
GB 1454-730 X45
US 4026-951 Y23
SU -560-527 A20
CA 1045-166 B03
CH -612-410 B35

67307-W D
BE -827-027 W41
NL 7503-663 W42
DT 2513-201 W42
SW 7503-656 W47
DK 7501-277 W52
FR 2265-283 X03
BR 7501-738 X04
PT --63-554 X38
ZA 7501-835 X48
CH -590-017 Y34
CA 1029-248 A17
GB 1508-589 A17
US 4104-411 A47
IT 1030-465 B26
OE 7502-281 B35

67684-W BD
DT 2513-222 W41+
BE -827-156 W41
NL 7503-654 W42+
SW 7503-438 W47+
J5 0135-283 W52+
DK 7501-259 X02+
FR 2265-361 X03+
ZA 7501-882 X21
US 4054-595 Y43+
GB 1501-864 A08+
HU T015-588 A45+
US 4164-446 B35+

73526-W D
NL 7504-447 W44+
DT 2515-561 W45+
FR 2280-330 X21+
US 3964-498 X27
US 3977-414 X37
US 3977-413 X37
US 3977-412 X37
US 3977-415 X37
CH -588-825 Y29+
CA 1060-195 B35+

74307-W BD
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NL 7503-467 W45
J5 0148-583 X03
FR 2268-023 X06
SF 7500-749 X07
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GB 1459-731 Y01
CH -611-315 B23
OE 7600-951 B35

74359-W ADE
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BE -828-198 W45
NL 7504-745 W45
SW 7503-191 W50
NO 7501-017 W51
FR 2267-984 X06
J5 1002-256 X08
OE 7503-044 X36
GB 1495-339 Y50
CH -599-060 A24
IT 1030-361 B26
J7 9022-697 B35

75756-W DE
BE -828-580 W46
NL 7504-117 W47
DT 2421-618 W48
SW 7503-962 W52
J5 0154-438 X04
FR 2269-328 X08
OE 7503-365 Y09
GB 1480-314 Y29
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CA 1046-415 B05
CH -612-088 B35

80221-W AD
BE -829-081 W49+
NL 7505-670 W49+
NL 7505-672 W49+
DT 2521-899 W50+
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FR 2270-851 X10+
DT 2521-960 X16+
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GB 1513-672 A23+
CH -611-156 B23+
CA 1059-436 B33+
DT 2560-117 B35+

80386-W DE
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NL 7505-475 W49
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BR 7502-944 X15
OE 7503-572 Y35
GB 1498-534 A03
CH -612-214 B35

86435-W CDE
US 3925-559 W52+
BE -835-587 X23+
CA -994-240 X33
NL 7513-345 Y22+
DT 2553-020 Y23+
FR 2331-291 Y33+
GB 1512-070 A21+
CA 1060-254 B35

03921-X D
BE -832-598 X03
NL 7509-008 X11
DT 2439-993 X11
SW 7509-316 X16
NO 7502-890 X17
SF 7502-352 X22
FR 2282-235 X23
J5 1051-533 X25
ZA 7505-362 X35
PT --64-187 X36
GB 1470-646 Y15
CS 7505-727 A13
OE 7506-438 A35
US 4156-020 B23
CH -612-074 B35

05852-X ADF
DT 2528-555 X04
SW 7507-172 X09
J5 1014-988 X12
FR 2276-423 X16
BR 7503-907 X30
GB 1472-156 Y18
US 4025-472 Y22
CA 1035-483 A32
J7 9021-873 B35

11025-X D
US 3935-069 X06
BE -836-707 X27
DT 2556-145 X27
NL 7514-676 X28
J5 1088-686 X38
SF 7503-383 X39
DK 7505-417 X41
FR 2295-966 X45
GB 1473-487 Y19
OE 7509-587 B09
SU -627-761 B30
CA 1060-365 B35

11877-X ABD
J5 0078-641 X07
J7 9021-868 B35

13435-X AD
DT 2534-514 X08
BE -832-063 X08
NL 7509-188 X08
FR 2280-361 X21+
DK 7503-508 X21
J5 1051-528 X25
BR 7504-935 X33
CH -579-909 X42
US 4013-787 Y13+
GB 1510-489 A19
GB 1510-488 A19
OE 7505-985 B35

17220-X ABD
DT 2534-412 X10
SW 7508-882 X14
J5 1041-494 X21
US 3970-521 X31
IL --47-762 A20
GB 1513-185 A23
CA 1060-366 B35

19005-X CDE
DT 2440-209 X11
BE -832-650 X11
FR 2282-425 X23
J5 1125-022 X51
OE 7506-490 Y35
GB 1509-230 A18
CA 1060-444 B35

21647-X DE
J5 1014-750 X12
J7 9022-022 B35

22769-X DM
DT 2441-360 X13
J5 1026-617 X16
FR 2283-237 X24
DS 2441-360 X29
GB 1444-528 X32
CH -612-215 B35

26705-X BDE
DT 2530-861 X15
NL 7511-128 X15
J5 1035-485 X19
FR 2285-456 X27
BR 7506-071 X34
GB 1454-249 X45
US 3998-697 Y01
CA 1043-283 A50
J7 9019-468 B32
CH -612-440 B35

28656-X DEG
DT 2543-103 X16
J5 1040-228 X21
J7 9022-144 B35

30212-X D
BE -835-780 X17
NL 7513-893 X42
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PT --64-508 X44
BR 7600-129 X45
NO 7600-166 X46
SW 7513-709 X46
DK 7505-855 X51
SF 7503-347 X52
FR 2305-366 Y04
DS 2555-321 A02
ZA 7507-273 X48
CH -612-144 B35

30222-X D
BE -835-832 X17
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NL 7511-647 X24
SW 7513-139 X28
DK 7505-249 X34
J5 1084-805 X36
FR 2292-035 X39
US 4004-041 Y05
IL --46-106 Y30
GB 1497-482 A02
CA 1060-465 B35

31506-X BDGJ
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US 4001-480 Y03
CA 1060-364 B35

31876-X BD
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NL 7512-340 X19
SW 7511-695 X23
NO 7503-532 X24
DK 7504-729 X29
SF 7502-935 X31
FR 2288-477 X34
DT 2547-354 X39
J5 1105-015 X44
US 4042-576 Y34
GB 1519-816 A31
CA 1055-414 B24
CH -612-439 B35

31907-X ADEM
BE -835-992 X18+
NL 7513-824 X24+
NO 7503-974 X29
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DK 7505-304 X35+
SF 7503-326 X35+
SW 7513-226 X38+
FR 2292-663 X41+
ZA 7507-451 Y01
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OE 7802-732 B35

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DT 2807-495 B35+

63649-A DJ
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SW 7702-051 A40+
J5 3115-682 A46+
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GB 1551-538 B35+

65674-A BCD
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FR 2382-498 A49
DK 7800-979 A51
OE 7801-592 B35

67086-A D
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NL 7802-942 A40+
SW 7803-118 A44+
FR 2383-901 A51+
DK 7801-210 A51+
OE 7801-213 B35+

67132-A ADF
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US 4117-187 A40+
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68950-A CD .
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72508-A ADE
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EP ---1-305 B14
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DK 7801-432 A46
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76514-A D
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80060-A ADG
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BE -874-302 B35

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US 4164-506 B35

82239-A AD
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DK 7704-511 B23+
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82495-A D
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NL 7805-160 B03+
DT 2821-403 B05+
DK 7802-127 B08+
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SW 7805-606 B14+
J5 4036-255 B17
PT --68-035 B17+
ZA 7802-683 B25
SF 7801-517 B25+
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J5 4092-680 B35

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OE 7804-786 B35

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09730-B D
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OE 7805-100 B35

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DK 7803-325 B11
BR 7808-671 B35

15961-B D
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SW 7802-696 B23
BR 7808-673 B35

15962-B D
WP 7900-077 B08+
BR 7808-674 B35+

16085-B D
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FR 2409-016 B35

16275-B BCD
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NL 7808-321 B09+
J5 4032-695 B16
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J5 4092-695 B35

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DK 7803-768 B15
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NL 7811-114 B23
GB 2008-931 B24
FR 2409-147 B35

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22151-B DH
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J5 4090-869 B35

23989-B D
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NL 7811-379 B23+
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J5 4092-640 B35+

24002-B D
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NL 7811-395 B23
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FR 2409-017 B35

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GB 2008-248 B22+
NL 7811-478 B23+
DK 7805-168 B27+
BR 7807-695 B33+
FR 2409-517 B35+

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SF 7803-567 B35

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SF 7803-568 B35

24151-B D
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DS 2800-310 B35

24712-B D
J5 4023-140 B13
J7 9022-499 B35

25900-B D
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BR 7808-690 B35+

26453-B DE
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J5 4092-663 B35

27923-B D

BE -872-607 B15+
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GB 2009-586 B25+
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DK 7805-523 B30+
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NO 7804-136 B31+
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29786-B DF
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SF 7803-490 B35

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35257-B BD
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NO 7803-722 B26
BR 7807-290 B26+
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37210-B D
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DK 7900-135 B35
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BR 7900-212 B35

37266-B D
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SW 7809-345 B27
PT --68-789 B31

BR 7807-524 B32
FR 2409-304 B35
SF 7802-871 B35

38987-B DE
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DT 2849-225 B22+
NL 7811-311 B23+
DK 7805-132 B27+
SW 7811-896 B29+
BR 7807-568 B32+
J5 4088-889 B34+
FR 2409-303 B35+
SF 7803-502 B35+

38989-B AD
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DT 2850-282 B22
NL 7811-479 B23
SW 7811-927 B28
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FR 2409-310 B35
SF 7803-530 B35

39020-B AD
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DT 2904-401 B35

39348-B ADEF
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GB 2008-641 B23+
DK 7805-059 B27
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SW 7811-814 B27
FR 2409-344 B35
SF 7803-489 B35

39358-B DJ
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NO 7803-841 B27
SW 7811-765 B27
SF 7703-467 B35

39365-B D
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FR 2409-309 B35

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NL 7811-290 B22
GB 2008-577 B23
J5 4079-216 B31
FR 2409-251 B35

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GB 2008-135 B22
FR 2409-278 B35

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SF 7803-457 B35

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J5 4091-486 B35
FR 2409-012 B35

40838-B D
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SW 7810-073 B28+
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GB 2011-385 B28
J5 4073-194 B29
FR 2409-307 B35

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FR 2409-302 B35

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FR 2408-997 B35

40914-B BD
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J5 4084-094 B33
FR 2409-308 B35

40915-B DE
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J5 4073-129 B29
FR 2409-048 B35

40918-B BDEG
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GB 2009-617 B25
J5 4084-883 B33
FR 2409-081 B35

42143-B D
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DK 7805-375 B29
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SF 7803-675 B35

42416-B BD
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NL 7811-763 B25+
GB 2009-786 B25+
DT 2851-928 B26+
DK 7805-428 B29+
SW 7812-283 B29+
SF 7803-663 B35+

42427-B DJ
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DT 2804-316 B32
NL 7900-782 B33
GB 2014-650 B35

42722-B D
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NL 7811-714 B24+
GB 2008-920 B24+
SW 7812-069 B29+

SF 7803-591 B35+

42805-B D
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SW 7811-922 B28
OE 7708-433 B35

44035-B DF
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DT 2852-656 B25+
NL 7812-046 B26+
GB 2010-767 B27+
SW 7714-021 B30+
NO 7804-148 B31+
SF 7803-738 B35+

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NL 7900-819 B35
GB 2014-427 B35

44099-B D
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DT 2906-082 B34+
NL 7901-201 B35+

44241-B D
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BR 7807-243 B35+

44295-B AD
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SF 7803-736 B35

44323-B BD
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DK 7805-504 B30
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J5 4092-634 B35

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J5 4090-113 B35

44394-B D
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J5 4090-855 B35+
SF 7803-650 B35+

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GB 2009-596 B25+
NL 7811-898 B26
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SW 7714-056 B31
SF 7803-791 B35

47042-B D
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J5 4090-163 B35

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DK 7805-757 B32
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7198-B D
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47346-B ADF
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J5 4090-398 B35
BR 7808-250 B35

47480-B D
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SW 7713-918 B30
SF 7803-776 B35

47540-B DEM
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DK 7805-563 B30+
J5 4092-535 B35+

47541-B ADEJ
EP ---2-636 B26
DK 7805-587 B31
BR 7808-185 B34
J5 4092-592 B35

49201-B BCDE
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SW 7812-827 B32
J5 4090-150 B35

49529-B DE
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50745-B D
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US 4164-055 B35+

50873-B D
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GB 2011-786 B29
BR 7900-063 B35

50886-B AD
BE -873-366 B28
DT 2900-232 B29
GB 2011-944 B29+
NL 7900-077 B30
DK 7900-047 B34
SW 7900-160 B35

50888-B D
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DT 2905-078 B34+
NL 7901-126 B35+
GB 2014-425 B35+

51269-B D
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J5 4092-909 B35

51272-B DE
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DT 2757-278 B28
J5 4090-115 B35

51279-B BD
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SW 7813-269 B33
J5 4092-914 B35

52535-B D
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US 4161-552 B31
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52537-B DE
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DT 2855-392 B30
NL 7900-117 B31
GB 2012-767 B31+
DK 7900-118 B35
SW 7900-252 B35

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GB 2012-547 B31
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SW 7812-896 B35

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DK 7900-105 B35

52555-B D
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GB 2012-792 B31
BR 7900-252 B35

52792-B D
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EP ---3-119 B30
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NL 7805-306 B30
GB 2012-157 B30
DK 7802-523 B34
SW 7805-422 B35

52848-B ADJ
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NL 7812-340 B29+
GB 2011-828 B29+
DK 7805-823 B33+
J5 4090-081 B35

52922-B CD
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DK 7805-799 B32+
DT 2805-855 B35

52972-B BCD
EP ---2-835 B29
J5 4092-951 B35

53143-B CD
GB 2011-910 B29+
SW 7813-079 B32+
BR 7808-335 B34+
J5 4091-485 B35+

53158-B D
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BR 7900-358 B35

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GB 2014-157 B34
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54833-B D
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GB 2012-302 B30+
NL 7900-211 B31
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NL 7900-210 B31
GB 2013-706 B33+
DK 7800-659 B35
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SW 7801-712 B35
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54921-B ADE
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BR 7900-186 B35+

56534-B D
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BR 7900-377 B35
GB 2014-475 B35

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GB 2012-803 B31+
BR 7900-254 B35

56569-B AD
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GB 2012-802 B31
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58086-B D
DL -135-559 B32
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58446-B ADE
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59812-B BD
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DT 2904-186 B34
NL 7900-869 B35

59824-B ADE
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GB 2014-602 B35

59829-B D
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60966-B DE
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BR 7900-321 B35

61613-B AD
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61639-B DEH
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61669-B ABD
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GB 2014-584 B35

61693-B AD
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GB 2014-508 B35

61720-B DJ
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61747-B AD
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GB 2014-181 B34+
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NL 7901-031 B35

61756-B D
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NL 7900-959 B35
GB 2014-429 B35

61757-B BD
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GB 2014-129 B34+
NL 7901-010 B35+

61760-B DE
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GB 2014-603 B35

61765-B D
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GB 2014-555 B35

61777-B BD
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EP ---3-616 B34
NL 7901-182 B35

61783-B ABD
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BE -874-153 B35
NL 7901-181 B35
GB 2014-582 B35

63152-B DEF
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63155-B ADF
BE -874-353 B35+

63156-B ADF
BE -874-354 B35

63162-B AD
BE -874-398 B35

63165-B D
BE -874-415 B35+

63167-B DE
BE -874-420 B35

63170-B ADJ
BE -874-429 B35

63203-B CDEF
CA 1060-155 B35+

63204-B D
CA 1060-306 B35

63207-B ADEG
CA 1060-475 B35

63209-B AD
CA 1060-592 B35

63210-B D
CH -612-073 B35

63223-B AD
DS 1642-159 B35

63235-B D
DS 2828-992 B35

63239-B BD
DS 2832-782 B35

63241-B ADJ
DS 2840-496 B35

63242-B DH
DT 2803-814 B35

63265-B BCDJ
DT 2806-371 B35

63266-B D
DT 2806-378 B35

63269-B AD
DT 2806-402 B35
NL 7901-158 B35

63279-B DE
DT 2806-603 B35

63288-B CD
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63291-B DE
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63293-B BDE
DT 2806-804 B35

63305-B ADE
DT 2806-948 B35

63314-B D
DT 2807-047 B35

63316-B D
DT 2807-059 B35

63318-B BD
DT 2807-089 B35+

63319-B BD
DT 2807-090 B35+

63325-B D
DT 2807-208 B35

63329-B ABD
DT 2807-286 B35

63335-B D
DT 2807-329 B35

63341-B D
DT 2807-445 B35

63354-B D
DT 2807-523 B35

63355-B D
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63357-B DJ
DT 2807-526 B35

63359-B D
DT 2807-532 B35

63360-B D
DT 2807-554 B35

63390-B D
DT 2905-007 B35

63393-B DM
DT 2905-102 B35
GB 2014-829 B35

63397-B BCDE
DT 2905-252 B35

63399-B AD
DT 2905-451 B35
BE -874-155 B35

63400-B ADJ
DT 2905-490 B35

63401-B DE
DT 2905-575 B35
GB 2014-434 B35

63417-B D
DT 2905-998 B35
GB 2014-430 B35

63424-B ADJ
DT 2906-334 B35

63432-B ADJ
DT 2906-510 B35+
BE -874-300 B35+

63444-B BCD
DT 2906-996 B35

63445-B ADJ
DT 2906-998 B35

63446-B D
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63447-B D
FR 2409-007 B35

63448-B D
FR 2409-008 B35

63449-B D
FR 2409-010 B35

63450-B D
FR 2409-011 B35

63455-B D
FR 2409-096 B35+

63458-B D
FR 2409-236 B35
SW 7811-985 B28

63462-B DH
FR 2409-305 B35+

63482-B D
GB 1551-412 B35

63486-B D
GB 2014-424 B35

63487-B D
GB 2014-426 B35+

63491-B BD
GB 2014-452 B35+

63493-B DHJ
GB 2014-467 B35+

63500-B D
GB 2014-507 B35+

63503-B BDEJ
GB 2014-553 B35+

63510-B D
GB 2014-578 B35+

63544-B ADE
J5 4041-333 B35

63550-B DJ
J5 4043-181 B35

63585-B CD
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63616-B DL
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63617-B DJ
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63621-B ADJ
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63626-B ADEJ
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63709-B BDE
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63710-B BDE
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63829-B DE
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63835-B ADF
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63872-B DKL
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63931-B ADHJ
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63933-B ADEG
J5 4091-962 B35

63934-B D
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64000-B ADFJ
J5 4092-572 B35

64001-B D
J5 4092-574 B35

64007-B DJ
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64008-B DJ
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64018-B DE
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64025-B D
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64030-B CD
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64032-B AD
J5 4092-632 B35

64033-B [illegible]
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J5 4092-635 B3

64035-B DE
J5 4092-636 B3

64036-B D
J5 4092-637 B35

64037-B D
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64038-B D
J5 4092-662 B35

64040-B D
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64041-B CD
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64043-B D
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64044-B D
J5 4092-691 B35

64045-B BDE
J5 4092-692 B35

64046-B BD
J5 4092-693 B35+

64047-B BD
J5 4092-694 B35

64048-B BD
J5 4092-697 B35

64049-B AD
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64050-B AD
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64062-B DE
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64066-B BDE
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64093-B ADF
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J4 9117-139 B35

64107-B D
J7 9022-024 B35
J5 0111-863 B35

64108-B D
J7 9022-025 B35
J5 0120-164 B35

64114-B DJ
J7 9022-119 B35
J4 9044-798 B35

64134-B AD
J7 9022-486 B35
J5 1133-439 B35

64135-B D
J7 9022-491 B35+

64136-B D
J7 9022-492 B35
J5 1123-859 B35

64137-B D
J7 9022-491 B35
J5 1135-299 B35

64138-B D
J7 9022-498 B35
J5 [illegible] B35

64139-B D
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J4 9047-548 B35

0-B D
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:101-171 B35

1-B BDE
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6-B DE
7801-517 B35

9-B D
7801-712 B35

61-B AD
7809-829 B35

62-B ADE
7810-636 B35

69-B DE
7901-164 B35

80-B DE
-184-012 B35

12-B D
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13-B D
-633-517 B35

27-B DJ
-633-548 B35+

29-B D
-633-550 B35

30-B DJ
-633-551 B35

66-B D
-633-587 B35

276-B DF
-633-597 B35

300-B DM
633-658 B35

346-B D
-633-805 B35

356-B D
J 633-815 B35

357-B D
J -633-816 B35

358-B D
J 633-817 B35

359-B D
J -633-818 B35

360-B DF
-633-819 B35

361-B D
J -633-820 B35

362-B ADF
J -633-822 B35

386-B CDE
J 633-847 B35

409-B AD
J 633-872 B35

434-B CD
J -633-897 B35

554-B D
S 4164-056 B35

574-B DJ
4164-317 B35

577-B DF
4164-393 B35

578-B DEF
4164-394 B35

579-B DEF
S 4164-395 B35

64585-B CD
US 4164-405 B35+

64601-B BD
US 4164-445 B35

64602-B BDJ
US 4164-449 B35

64617-B CDE
US 4164-477 B35

64634-B ADEG
US 4164-505 B35

64645-B AD
US 4164-536 B35

64646-B D
US 4164-538 B35

64657-B ADG
US 4164-562 B35

64659-B BD
US 4164-566 B35

64660-B BCD
US 4164-572 B35+

64662-B CDEH
US 4164-574 B35+

64667-B D
US 4164-589 B35+

64668-B ADE
US 4164-592 B35

64669-B D
US 4164-594 B35

64693-B BDE
WP 7900-588 B35+

64699-B BD
WP 7900-609 B35

-874
153 61783B A96B04D16 + R1
155 63399B A96D22
162 61669B A96B07D21
168 61747B A97D25
300 63432B A35D18J01P1
302 80060A A18D25G02
348 63152B D25E16F06
353 63155B A97D22F09P2
354 63156B A97D22F09P2
• 398 63162B A97D15
• 415 63165B D16
• 420 63167B D25E33
• 429 63170B A97D16J01P3

R 7807
= 243 44241B D14P7 + P2

R 7806
= 228 49370B A97C03D22F09P6
= 244 47343B A97D15F09
= 245 45689B A96D21E13
= 250 47346B A97D15F09
= 251 29786B D18F04P1 + P7
= 657 89601A D15Q2
= 662 89608A C03D13
= 671 15958B A88D15Q7
= 673 15961B D21P3
= 674 15962B D22P3Q3
= 687 20214B A88D15
= 690 25900B D15

BR 7900
= 061 35303B D13
= 063 50873B D25
= 155 54834B D24
= 156 54833B D21 + P3
= 185 58446B A97D25E12
= 186 54921B A97D25E23
= 212 37210B D18P1
= 252 52555B D17 + Q4
= 254 56544B D21E13
= 272 54767B A82D18E37F08
= 320 56569B A97D25P2Q1
= 321 60966B D16E17
= 358 54500B A31D14J02
= 364 09730B D22P3 + Q3
= 375 42143B D12 + P6Q3
= 377 56534B D22 + P3

CA 1060
• 155 63203B C01D22E12F09P6
= 165 02361Y A97D22F07 + P3P7
= 195 73526W D18P1
254 86435W C01D13E12
= 255 74092Y D13
= 256 33112X D13
= 257 54514X A97D16
= 258 63039Y A97D12
= 259 51020X D11
= 260 42396X D13
= 262 61245Y D15 + P7
= 285 28859W A88D15J01
= 304 85868A D13
• 306 63204B D18P1
= 308 02366Y A26D15F09H01
323 55574Y B04D16R1
= 334 49358X D15H03J01Q2
= 346 34604W B06D21
= 351 48078W D15J01
= 364 31506X B07D16G05J04P7
= 365 11025X D16
= 366 17220X A96B04D16
= 367 37916Y A97B04D16
= 368 42037X B04C03D16
= 375 92386X D15
= 432 38027W B02C02D13
= 444 19005X C03D25E19
= 465 30222X D23
466 59699X D15E11F06
• 475 63207B A60D21E14G02
= 589 08012Y D15P4
= 590 77367X D15F09J04
= 591 32880Y A97D15J01
• 592 63209B A91D15
= 593 81191X D15E13

CH -612
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• 073 63210B D11
= 074 03921X D13
= 084 11223Y D22M13P3 + P4
= 086 79716Y D22P3
= 088 75756W D21E16
= 089 85090Y A96D21E17
090 44138X A97D22P3
= 094 86834Y A88D15
= 144 30212X D14Q3 + P2
= 159 58172X D15E14
= 160 68790X D15
= 183 57172W A41D15E13

CH -612
= 214 80386W D25E17
= 215 22769X D21M26
= 325 55990Y D15P1
= 328 19290W C03D13
= 332 86962X A96D22F07P2
= 333 03621Y A96D22F07P3
= 334 43515Y D22P3
= 345 21965Y D22P3
= 361 79361X D15J01 + P4
= 403 31907X A41D24E37M11
= 405 19990Y C04D15
= 410 64049W D23E14G06
= 439 31876X B04D13
= 440 26705X B05D16E17
= 444 20105U B04D16

DK 7800
= 659 54834B D24
= 660 54833B D21 + P3

DK 7900
= 105 52549B B04D16J04R1
= 118 52537B D17E13
= 135 37210B D18P1
= 150 52539B D13E24

DS 1642
• 159 63223B A35D22P3

DS 2026
= 240 76458S D22E19 + P3

DS 2035
= 845 07211T D25E12

DS 2045
= 337 23658S D22P3

DS 2139
= 917 21177V D13Q7

DS 2153
= 848 32763T D13P4

DS 2212
= 623 58439U A97D25

DS 2243
= 288 21258V D15

DS 2257
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DS 2260
= 119 31541U D13

DS 2262
= 829 50460V A97D18E12P1

DS 2440
= 024 62495W B07D23E15 + P1

DS 2449
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DS 2515
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DS 2532
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DS 2558
= 255 48922Y D15

DS 2658
= 575 48004A A87D25E19F06

DS 2724
= 992 88588Y D16E24

DS 2725
= 751 91594A B04D16

DS 2739
227 19950A D21E21

DS 2749
= 751 36606A D13E17

DS 2753
= 612 42510A D15E33

DS 2759
= 502 59207Y D23E13 + P1

DS 2800
= 310 24151B D11

DS 2828
• 992 63235B D13

DS 2832
• 782 63239B B07D11

DS 2840
• 496 63241B A18D13J04

DT 2560
= 117 80221W A96D21

DT 2800
926 33495A A97D16

DT 2803
• 814 63242B D16H07

DT 2805
= 855 52922B C03D13

DT 2806
= 344 59824B A97D25E11
• 371 63265B B05C03D16J04R1
• 378 63266B D15
• 402 63269B A32D22 + P3
• 603 63279B D21E14
• 740 63288B C03D13P4
• 799 63291B D15E33
• 804 63293B B05D13E19
• 948 63305B A96D21E33

DT 2807
• 047 63314B D15
• 059 63316B D12
• 089 63318B B04D16
• 090 63319B B04D16
136 58086B D13
• 208 63325B D13
• 286 63329B A97B05D16
• 329 63335B D25
• 445 63341B D16
495 63421A D15H05R2
• 523 63354B D15
• 524 63355B D15
• 526 63357B D15J01
• 532 63359B D11
• 554 63360B D12

DT 2904
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DT 2905
• 007 63390B D13
• 102 63393B D21M26Q7 + R5
• 252 63397B B03C02D25E13
• 451 63399B A96D22
• 490 63400B A31D14J02
• 575 63401B D13E34
• 998 63417B D12

DT 2906
• 334 63424B A88D15J01
• 510 63432B A35D18J01P1
• 996 63444B B04C03D16
• 998 63445B A88D15J01

FR 2408
= 997 40908B D16P1

FR 2409
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• 007 63447B D11
• 008 63448B D13
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• 096 63455B D11P4
= 147 22106B D14P7
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= 187 40841B D15H01Q2
= 233 58889A D15
= 234 47042B D15
• 236 63458B D15
= 250 40883B A60B05C03D22P3
= 251 39369B D23E17
= 278 39387B A96D22F01 + P3
= 302 40886B A87D25E19F06
= 303 38987B D25E19
= 304 38984B B05D16E17
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= 307 40873B B02C02D16
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= 309 39365B D16Q4

FR 2409
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GB 1551
= 378 52199X D13P1
• 412 63482B D18R1
465 76514A D12
= 492 47953A D12 + P5R1
538 63649A D15J03 + R2
= 566 21639A D16 + P4
= 573 88302Y D21
= 594 54749A D13
= 633 30361A A97D25E23
= 637 36653A B05D21P3

GB 2014
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= 425 50888B D13
• 426 63487B D13
= 427 44059B D18P1
= 429 61756B D13
= 430 63417B D12
= 434 63401B D13E34
• 452 63491B B04D16
= 453 12309B A97D22E12P3
= 456 61613B A96D21P3
• 467 63493B D15H01J01
= 475 56534B D22 + P3
• 507 63500B D25
= 508 61693B A96D22P2P7
• 553 63503B B04D16E31J04R1
= 555 61765B D15
• 578 63510B D17
= 582 61783B A96B04D16 + R1
= 584 61669B A96B07D21
= 602 59824B A97D25E11
= 603 61760B D25E16
= 650 42427B D15J04R1 + Q5
= 829 63393B D21M26Q7 + R5

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J4 9047
= 548 64139B D16

J4 9117
= 139 64093B A87D22F06P2

J5 0111
= 863 64107B D15

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= 164 64108B D15

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= 661 64138B D13

J5 1101
= 171 64140B D13

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= 439 64134B A92D22Q3

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J5 4041
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• 181 63550B D16J01

J5 4089
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• 982 63621B A88D15J01
• 987 63626B A91D15E32J01

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= 155 43866Y D23E15
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• 868 63829B D15E17Q7
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• 961 63932B D15F06
• 962 63933B A41D15E35G06
• 966 63934B D15P3

J5 4092
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• 585 64008B D15J01
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• 619 64025B D13
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• 632 640[illegible]B A96D21
• 633 640[illegible]B D21E13
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• 635 64034B D23E19
• 636 64035B D23E17
• 637 64036B D12
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• 654 64037B D13
• 662 64038B D13P1
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• 683 64040B D16
• 684 64041B C04D16
• 689 64042B A96B04D16
• 690 64043B D16
• 691 64044B D16R1
• 692 64045B B05D16E16
• 693 64046B B04D16
• 694 64047B B02D16
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= 696 35257B B04D16 + R1
• 697 64048B B04D16
• 779 64049B A86D22P2
• 780 64050B A86D22P2
• 904 64062B D23E19
= 909 51269B D17
• 912 64066B B05D23E17
= 914 51279B B04D16
= 941 47155B B03C22E13
• 947 64081B D23E15
= 951 52972B B03C02D22
= 960 49529B D25E13
= 964 49201B B02C02D13E13

J7 0017
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J7 9021
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= 842 93661X D25E12
= 858 59491U A96D21 + P3
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= 873 05852X A11D22F06P3

J7 9022
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• 025 64108B D15
• 119 64114B D15J04R1
= 120 38452W B04D16J04 + R1
= 144 28656X D22E19G02P3
= 225 23623A A88D15[illegible]
= 337 12666B D13E[illegible]
= 430 68487V A97D15F06J01
= 451 82[illegible] A87D05E12F06
• 486 64134B A97D22Q3
• 491 64135B D13
• 492 64136B D13
• 493 64137B D13
= 496 [illegible] D13
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= 499 24713B D13
• 500 64139B D16
• 501 64140B D13
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= 517 [illegible] [illegible]

J7 9022
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= 698 11865Y D15
= 699 76631Y D15
= 700 11358A D15M[illegible]
= 702 78460X D15
= 707 79695X D15

NL 7801
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644 28504A D13Q3
707 49747A A13B07D21G02
• 712 64159B D12

NL 7809
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NL 7810
• 636 64162B A11D15E14

NL 7900
= 761 82495A D18P1
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CENTRAL PATENTS INDEX

CLASSIFIED ALERTING BULLETIN

Section D:

FOOD
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64701B - 66321B

ABSTRACTS

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COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	16 AUG 79	874,174 - 874.260
	29 AUG - 3 SEP 79	874,537 - 874,599
-Non Delayed	16 AUG 79	875,610 - 875,799
CANADA	21 AUG 79	1,060,601 - 1,061,050
DENMARK	13 AUG 79	7,800,245 - 7,900,309
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-DAS	30 AUG 79	1,442,866 - 2,902,604
-OLS	30 AUG 79	2,120,731 - 2,907,848
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FRANCE*	22 JUN 79 (BOPI 27 JUL 79)	2,409,675 - 2,410,420
UNITED KINGDOM	5 SEP 79	1,551,811 - 1,552,130 2,014,831 - 2,015,310
HUNGARY	28 AUG 79	HOO2,454 - H002,462 T016,859 - T016,980
JAPAN		
-Unexamined	—	47,025,924 - 53,142,448
	23 JUL - 30 JUL 79	54,092,968 - 54,096,500
-Examined	9 AUG - 15 AUG 79	79,022,761 - 79,023,720
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UNITED STATES		
-Reissues	21 AUG 79	Re30.075 - Re30.082
-Patents	21 AUG 79	4,164,792 - 4,165,541

*Printed patents actually published late August - early September, 1979

**Includes numbered Basics from Week B25

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See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
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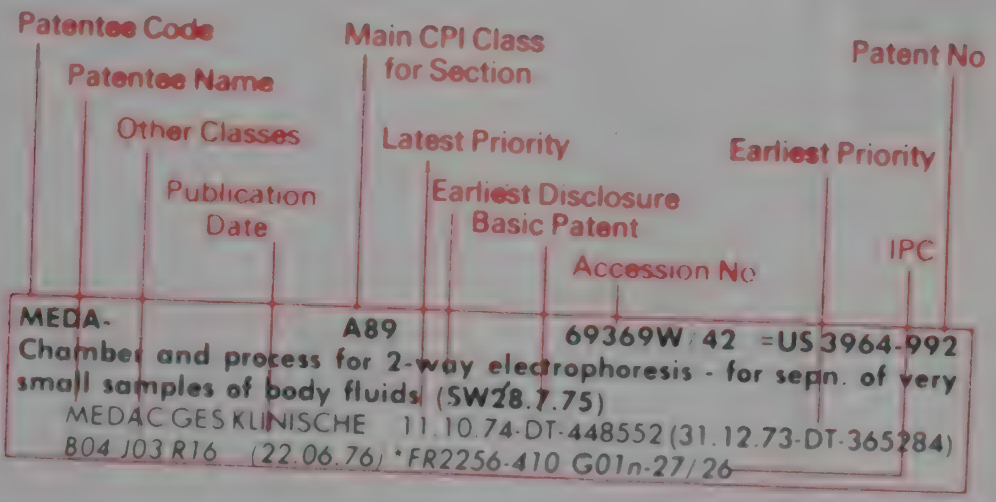
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Earliest Priority
IPC
Patent No

MEDA- **A89** **69369W/42 =US 3964-992**
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

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FRANCE – new law	100	820	1,885	394	Dec 69		
EAST GERMANY	15	215	495	103	Oct 70		
WEST GERMANY OLS – new law	180	1,600	3,680	768	Mar 70		
DAS	30	240	550	115	Mar 70		
PS	27	210	485	100	Mar 70		
NETHERLANDS – new law	40	390	895	187	Mar 70		
PCT	25(100')	80	175	38	Jan 79		
SOVIET UNION	35	230	530	110	Jan 70		
SWITZERLAND	14	145	335	69	Mar 70		
UNITED KINGDOM New Law	30	250	575	125	Jan 79		
Old Law	30	340	780	163	Jul 69		

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D1: FOOD; FERMENTATION

D11: BAKING

UPE- ★ D11 64747B/36 ★BE-875-757
Continuous electric oven for cooking pizzas on plates - has loading
nd discharge stations accessible to single operator at front of oven
SUPERFORNI RINALDI 08.05.78-IT-023124
Q77 (16.08.79) A21b F27b

A continuous conveyor transports loaded plates successi-
vely through the cooking chamber. The conveyor has sta-
tions for loading uncooked pizzas and discharging cooked
pizzas, both stations being accessible from the outside of
the oven.

The conveyor has horizontally moving paddles which displace the plates along horizontal slide rails extending longitudinally through the oven chamber. The oven has a single access opening in its front wall through which the conveyor extends presenting both loading and discharge stations, side-by-side. The paddles are pref. curved to fit around the driven side of each plate. The plate is automatically disengaged from its driving paddle when the paddle passes through the discharge station, e.g. by a lifting cam

Bath loading and discharge stations are accessible from a single operator posn. at the front end of the oven. Each paddle can be maintained individually without dismantling the oven. The oven can be adapted for different capacities by modular extension. 20.4.79 as 875757 (17pp448)

DROU/ ★ D11 64932B/36 ★DT 2907-129
Loading and unloading trolley for multistage baking oven - has endless metal belts actuated by catches on shelves
DROUET J C 22.02.78-FR-005126
(30.08.79) A21b-03/07

A trolley with a number of support surfaces for bread and other articles of dough, in stages one above the other, works with an oven having a number of shelves, so that each support surface can be pushed into a position immediately above a shelf in the oven. Each support surface consists of an automatic loading arrangement formed by an endless sheet metal belt, running on end rollers, and in each stage of the oven there are means of blocking the endless belt and of starting it running so that the products on the belt are deposited on to the oven shelf, as the trolley is withdrawn.

Reduces considerably the manual work necessary for transferring the lumps of dough from the rising chamber into the multi-stage oven, so that practically all the hand-work between rising chamber and oven is eliminated. 22.2.79 as 907129 (23pp1045)

UNBI- ★ D11 65086B/36 ★GB 2014-838
Patterned or textured crisp:bread prodn. - by whisking to a pourable and/or spreadable mixt. and cooking between two patterned plates
UTD BISCUITS UK LTD 02.02.79-GB-003744 (23.02.78-GB-007184)
(05.09.79) A21b-05

An edible prod. is prepd. from a batter of water, cereal meal(s) and colourant(s) and/or flavourant(s), which is vigorously agitated to form a homogeneous mixt. of pourable and/or spreadable consistency. The mixt. is then placed between a closed pair of spaced plates or onto one of an open pair of such plates, which are then closed. The viscosity of the mixt. is such that it spreads over all the inner surface of ≥1 plate, and it is used in such an amt. that it fills the space when cooked, due to heating of the plates.

The process gives a crispbread which can have the same or different pattern on each side. It is quick, simple, and economic, and treats both sides of the crispbread similarly. 2.2.79 as 003744 (5pp976)

DAII ★ D11 65662B/36 ★J5 4095-987
Powdery foaming agent for food industry - contg. glycerine ester of fatty acids part of which should be unsatd. acid
DAIICHI KOGYO SEIYAKU 12.01.78-JA-002525
(28.07.79) A21d-02/16 C09k-03

A powdery foaming agent (I) contains glycerin ester (II) of fatty acids, 5-50 wt.% of which should be unsatd. fatty acid.

(I) is foaming agent used for food industry. Other known edible (I) are pasty and uniformly mixing of these (I) with other materials is difficult. The present (I) has stable foaming power for long periods.

The average iodine value of (II) should be 5-50, and (II) should be composed of 50-95 wt.% of (II) having iodine value <3 and 50-5 wt.% of (II) having iodine value 70-120. One or more sucrose fatty acid esters, sorbitan fatty acid ester, propylene glycol fatty acid ester and lecithin other than (II) is/are pref. added in (I) as surfactant. Pref. compsn. of (I) is 5-30 wt.% of surfactant, 70-95 wt.% excipient, such as mono-, di- and polysaccharides, decomposition-prod. of sugar alcohol and starch and protein, and 0.1-2 wt.% of casein sodium. 12.1.78 as 002525 (2pp42)

FORT- D11 17374S/10 #NL-161-038
Strand dough divider knives
VEB KOMB FORTSCHRIT (LAND-) 20.08.69-DL-141958 (03.03.70-NL-003051)
*(15.08.79) *DT2023-841 A21c-05*

Small pieces are cut from a band of dough fed from rollers by means of a cutting knife which is mounted in a guide frame in which it can execute an extending and retracting motion whilst the frame itself is hinged and can execute a swinging motion. The sliding motion is operated by a cam at the back end of the blade, the cam being incorporated in a rotary mechanism which also causes the swinging motion of the frame.

The arrangement is such that the tip of the blade executes an inward motion toward the axis of the roller over which the dough is moving and which forms the backing plate for the cut and then swings downward to release the piece of dough before being retracted.

This movement prevents the dough layer from being disturbed during the cutting action of the knife so that further operations are not adversely affected. 3.3.70 as 003051 (6pp1370)

IVAN= ★ D11 65947B/36 ★SU-635-042
Ammonium carbonate prodn. for bread, fertilisers etc. mfr. - by mixing ammonia, carbon di:oxide and ammonium carbonate soln. and particles
IVANOVO CHEM TECH 13.06.75-SU-143657
C04 E35 (04.12.78) C01c-01/26

$(NH_4)_2CO_3$ used in bread baking, in colouring, and in fertiliser prodn., is obtd. in solid form with NH_3 content of 30-32% and water content 12-14% by mixing NH_3, CO_2 and an aq. soln. of $(NH_4)_2CO_3$ in presence of solid $(NH_4)_2CO_3$ particles.

The solid $(NH_4)_2CO_3$ particles are used in wt. ratio with NH_3 and CO_2 of 3-30:1 and aq. soln. $(NH_4)_2CO_3$ as 0.5-0.8 wt. of NH_3 and CO_2.

The water content of prod. stabilises it in storage and in transit.

Shlyakhtov V.G., Gogolev Yu.G., Streltsov V.V. Bul. 44/30.1.78. 13.6.75 as 143657 (2pp1347)

UFOO= ★ D11 66140B/36 ★SU-635-944
Dough dividing machine for bread baking industry - has feeding and delivery roller pairs and measuring containers, filled with dough from parts of roller surface enclosed by collars
UKR FOOD MECH ENG 06.06.77-SU-496023
(15.12.78) A21c-05/04

Dough-dividing machine, for making lumps of equal mass in bread baking comprising a loading hopper, dividing head with measuring containers, and feeding and delivery rollers positioned with a gap relative to the containers, to allow the sheet of dough to pass through.

Operational reliability of the machie is increased and more precise dividing of the dough is guaranteed by putting circular collars on the surface of at least one of the feeding rollers. The distance between any two rows of collars does not exceed the width of the measuring container.

Zolotov E.B., Mnyshenko N.A., Bul. 45/5.12.78 6.6.77 as 496023 (3pp29)

BAKE= ★ D11 66141B/36 ★SU-635-945

Spiced-biscuits finishing prodn. line - has distributing device between sugar coating drum and prod. drying conveyor

BAKERY WKS NO 10 04.02.77-SU-450320

(15.12.78) A21c-15

Flow line for finishing spiced biscuits, comprising a glazing drum, mesh conveyor for drying, cooler for holding the biscuits in holders, and discharging mechanism.

The line is more completely mechanised and the quality of the biscuits is increased by interposing a distributing mechanism between the drum and the drying conveyor. This mechanism can perform an oscillating motion. A rotating bladed drum is also positioned between the conveyor and the cooler. Each of the holders in the cooler consists of a mesh cradle, the front end of which slopes at an angle of 45-55°. The discharging mechanism comprises combs mounted so that they can interact with the cradles.

Semenov A.M., Bul. 45/5.12.78 4.2.77 as 450320 (4pp29)

KIKU/ D11 18220Y/11 =US 4165-3

Bread mfr. without antimould agent esp. sodium or calciu propionate - using wheat and/or rye flour with rice, malt or fru vinegar

KIKUHARA I 04.11.75-JA-132284

*(21.08.79) *BE-847-985 A21d-02/08*

A bread compsn. is prepd. comprising ≥ 1 kind of bread-making powder, and rice vinegar contg. ≥ 250 mg/l of free amino acid, such that the rice vinegar is present in amt. 180-450 ml per 25 kg of bread-making powder.

The bread-making powder is flour or rye powder. The rice vinegar is prepd. by mixing a vinegar seed and water with sake, which is made by subjecting a mixt. of shubo, steamed rice and koji to alcoholic fermentation while bein saccharified.

The bread compsn. prepd. is good in preservation capability without any synthetic preservative such as an antimould agent being added. The bread compsn. is also good in cellular structure, flavour and nutritive value. 26.5.77 as 800856 (+1.11.76-US-737381) (5pp931)

See Also

D13 SU 635088

D12 : MEAT ; FISH PROCESSING

KRAT ★ D12 64755B/36 ★BE-875-796

Stabilising animal carcasses suspended on balance - using support which is adjustable in height and laterally

BIZERBA-WERKE KRAUT KG 25.04.78-DT-818024

R13 (16.08.79) G01g

Animal carcasses in an abbatoir are transported on manually operated suspension tracks to a weighing station where the load is suspended from a weighing balance in stable manner to permit printing of weight.

Animal carcasses are suspended from a weighing platform. This platform is connected to a support which is applied to one side of the suspended load such that a line connecting the centre of gravity and the suspension point form an angle with the vertical. The support is adjustable in height and laterally by means of bolts and holes to obtain stabilisation. 23.4.79 as 875796 (12pp1055)

MAAS/ ★ D12 B/36 ★DK 7800-289

Appts. for cutting off slices of salmon

MAASS R 20.01.78-DK-000289

(13.08.79) A22c

BUCH/ ★ D12 64816B/36 ★DT 2807-696

Prefabricated, monolithic suspension ring for long sausages - consists of moulded plastic and is suitable for automatic sausage prodn.

BUCHHOLZ A 23.02.78-DT-807696

A92 (30.08.79) A22c-13

The sausage is inside a skin twisted at its ends so it can be held in a monolithic moulded clamp made of a plastic. The clamp consists of an upper ring (a) joined by at least two webs (b) to a short bar (c) with a collar at each end. The end of the sausage skin is twisted round bar (c) and is retained in position by a split metal clamping ring.

Bar (c) may alternatively consist of two parallel bars. The object is to provide a suspension ring suitable for use in automated processing plant, where the moulded ring is used e.g. to hold the sausage during a smoking process. The ring is moulded from a plastic which does not attack foodstuffs. 23.2.78 as 807696 (10pp1144)

SCHA/ ★ D12 64820B/36 ★DT 2807-766

Splitting hammer for line transporting opened pig carcasses - has easily manipulated axe blade with spike as guide

SCHACHER E 23.02.78-DT-807766

(30.08.79) A22b-05/20

The carcases of slaughtered pigs are split lengthways into sides by an axe with a cutting edge and a section provided with a handle. The axe with its roughly horizontally-aligned cutting edge is arranged below the barrel of a hammer cylinder fed for pref. by a compressed air line. A handle is provided with a trigger and the hammer may be supported by a counterweight and a cable on pulleys above the conveyor. Manipulating levers extend near enough horizontally and aprallel to the cutting edge of the axe.

Method overcomes the problem that the ideal method of splitting the sides of the carcase accurately; is either wage intensive or required highly expensive plant. The cheaper method of the splitting saw reduces the quality of the product. 23.2.78 as 807766 (28pp1045)

SHEM/ ★ D12 65019B/36 ★EP —3-912

Self-binding fibrous gluten for meat-like prods. - obtd. by agitating wheat gluten, reducing agent and inert solid

SHEMER M 22.02.78-IL-054096

A97 (05.09.79) A23j-03 A23l-01/31 C07g-07

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

A gluten having a net-like fibrous structure, a viscosity of $\geq 50{,}000$ cPs and self-binding properties is obtd. by agitating vital wheat gluten with a reducing agent at $< 70°$ C while adding a solid inert material having particles of dia. < 5 cm.

The gluten can be used as a self-binder for meat-like prods. such as sausage meat, hamburger meat, meat spread or corned beef, excluding the need of, e.g. egg albumen. It also acts as an extender, improving the texture of the meat. It can also be used as a binder for paper, adhesive, pudding, jelly, encapsulate and pellet mfr.

22.2.79 as 300284 (12pp558).

(E) ISR: US4[illegible]; DT1692735; US3290152; GB[illegible]; US3197310; US3102031. 1 Journal Reference.

M- D12 04209A/03 =GB 1551-667
ating shell fish esp. krill to obtain the whole muscles - by
ting, mechanically treating then separating
DALMOR PRZED POLOWOW DAL 14.09.76-PO-192426
*(30.08.79) *BE-858-698 A22c-29/02*

at is obtained from marine crustacea such as krill by
king the crustacea at 70 to 150°C., rinsing in cold wat-
propelling the crustacea at an acceleration of 5 to
00 g. through an array of cutters to superficially cut
shells and against an obstacle to smash the shells, and
parating the shell/meat mixture by flotation.

The rinsing water pref. has a salinity of ≯4%. Pref.
obstacle is a screen, perforated partition or spaced
rs, and has sharp-edged elements. The flotation medi-
is pref. aerated water. 7.9.77 as 037272 (5pp1376)

IET D12 36177V/19 =J7 9022-798
rbon dioxide snow generator - in which carbon dioxide vapour is
rec-ted to aspirate vapour from a second source into a vent
CHEMETRON CORP 05.04.73-US-348041
*J07 Q75 (09.08.79) *US3807-187 +C01b-31/22*

ne CO_2 vapour sepd. from the snow, pref. by passing
e liq. CO_2 into a "U" tube, is discharged into a vent so
at the low press. zone formed sucks CO_2 vapour from the
econd source i.e. CO_2 produced from a conventional
now horn, into the vent. The rate of aspiration can be
ontrolled by allowing air from the atmos. to be sucked
nto the vent. 4.4.74 as 038415 (clg. 5.4.73-US-348041)
01b-31/22 (9.8.79) CHEMETRON CORP (5pp)(J49130390)

OSA D12 53238X/28 =J7 9022-902
ones-contg sausages prodn - stability improved by adding fat
oated acids
NIPPON NOSAN IND KK 21.11.74-JA-133114
*C03 (09.08.79) *J51061-667 +A23k-01/10*

ones-contg. sausage which can be preserved for a long
me is obtd. by adding to meat contg. bones e.g. chicken,
eef, pork, acid minerals e.g. sorbic acid, fumaric
cid. coated with e.g., tallow. The mixt. is packed in
asing film and is sterilised by heating. When the mixt.
s heated, its pH is adjusted to 5.6-6.5 by the acid matls.
uch pH prevents gas generation by bones. 21.11.74 as
33114 A23k-1/00 (9.8.79) NIHON NOSAN KOG KK (5pp)
J51061667)

UNIC D12 15212Q/00 =NL-161-040
Moistening hollow articles esp sausage skins
UNION CARBIDE CORP 10.05.67-US-637538
*A97 (15.08.79) *NL6806-436 +A22c-13 B29c-17/02 B29c-25 B29d-23/20*

A hollow tube of synthetic casings comprssed to a bellows
is moistened by means of two layers of sponge materials
which lift the moisture from a bath and apply it to the casing.

The sponge layers are in the form of continuous bands and run over support plates, the plate for each sponge being parallel to the other and at such a distance from it that the distance between the two sponge layers is less than the dia. of the casing tube. The tube is then fed between the two layers. The layers of sponge are pref. driven in opposite directions so that the casing tube is rolled about its own axis as it is pushed between them.

The system enables the correct degree of moisture to be applied so that the casings can easily be opened up without causing any damage to the material itself. 7.5.68 as 006436 (9pp1370)

AZOV= ★ D12 65812B/36 ★SU-634-727
Fish descaling apparatus - has rotary drum carrying resiliently mounted arcuate cutting elements of star-shaped cross/section
AZOV-CHERNOMORSK 14.07.77-SU-511240
(30.11.78) A22c-25/02

Appts. as described in Parent Patent Cert. No. 388727 comprises a conveyor and paired spring-loaded drive drums with fish-shaped recesses. The drum surfaces carry staggered projecting clips with rounded working edges and resting on shock absorbers. To provide improved cleaning, the working part of each clip is arcuate and has star-shaped cross-section.

The appts. is effective for fish with small densely packed scales such as sea trout and pike perch. The clip arc radius of curvature is 3-18 mm and the star section points form cutting edges. Fish are fed tail-first to the drum, where the clips raise the scales and clip curvature facilitates lateral cutting and removal.

Krasnoperov S. V., Bul. 44/30.11.78 14.7.77 as 511240 Add to 388727 (2pp1358)

MOMD ★ D12 65853B/36 ★SU-634-786
Meat mincer perforated disc - has concentric rows of holes, with diameters reduced in outward direction to improve prod. homogeneity
MOSCOW MEAT DAIRY INST 13.04.77-SU-477278
P41 (30.11.78) B02c-18/30

Perforated disc for meat and meat prods., mincer has a constant thickness, with through holes having different dias. arranged in concentric rows. The homogeneity of the compsn. of the minced prod. is increased by reducing the dias. of the holes in each succeeding row from the centre to the periphery by a value constituting 0.90-0.93 of the dia. of the holes in the preceding row. Because of the arrangement of the holes, the speed at which the prod. is forced through is evened out over the whole area of the disc, and consequently an increased homogeniety of the prod. is obtd.

Ivashov V.I., YurkovS.G., Bubyrenko V.K. et al. Bul. 44/30.11.78.13.4.77 as 477278 (2pp29)

LEME= ★ D12 65929B/36 ★SU-634-926
Device for cutting meat into pieces - has band saw for removing firmly held meat parts projecting from box ahead of disc knives
LENGD MEAT IND PROD 25.07.77-SU-510511
P62 (30.11.78) A22c-17 B26d-03/22

Appts. as described in Parent Patent Cert. No. 335087 comprises two successive disc knife arrays and carriages with pins for holding the meat and mounted on drive chains for pivoting through 90°. The carriages mount holders with base apertures for the pins and side slots for passage of the knives. A band saw cuts off meat layers projecting from the holders for discharge via a guide trough.

For more complete removal of projecting meat and reliable ejection of pieces from the pins, a clamping mechanism above the saw has a trolley with a pivotable strip and a system of levers and cams, also a follower and stop at the point where the chains pass the pivot station. The trolley is linked with a carriage.

The strip is tilted towards an approaching carriage and holds the meat firmly until the saw has completed the cut.

Molozhavtsev L.G., Aleksandrov B.N., Lempert E.N., Bul. 44/30.11.78 25.7.77 as 510511 Add to 335087 (4pp1358)

SHIK/ ★ D12 66142B/36 ★SU-635-946
Boiled sausages cooling apparatus - has fan circulating air through bottom tray to surround sausages with coiled water foam for faster cooling
SHIKHOV G L 22.09.76-SU-407823
Q75 (15.12.78) A22c-11 F25d-13

Appts. for cooling boiled sausage prods. more rapidly with reduced water usage and prod. wt. loss comprises a chamber with a bottom tray to hold cooling water and in which an evaporator is mounted. A fan at the chamber top has a delivery tube ending at the water surface level.

The fan passes air at high velocity through the water which froths to fill the chamber and surround sausages held in a frame. The upward flow passes through a droplet trap for recirculation through the fan. An external level regulator controls tray water level. The recirculated heated air is cooled by the immersed evaporator cooler.

Shikhov G. L, Mizeretskii N.N., Bul. 45/5.12.78 22.9.76 as 407823 (2pp1358)

LEME= ★ D12 66143B/36 ★SU-635-947
Sausage products processing carrier - has holder frame on roller trolley for mechanised unloading by tilting relative to trolley
LENGD MEAT IND PROD 03.12.75-SU-195561
(15.12.78) A22c-15

The carrier comprises a roller trollye movable along an overhead track and a frame with superposed rows of inclined holders. For mechanised loading and unloading, the frame is secured to the trolley by a rocker arm which has a guide with a socket for a locator on the frame.

The frame can be tilted relative to the arm when the locator is removed from the socket. The guide working surface is pref. on a radius concentric with the frame pivot axis. To prevent sausages falling out, the frame pref. has side guards on three sides.

The frame is held securely in the vertical position during transportation, and the holder inclination prevents sausages falling out. After the operator has removed the locator from the guide, the whole frame can be tilted for rapid unloading of the treated sausages.

Nevskii M.A., Zhdanov A.A., Bul. 45/5.12.78 3.12.75 as 195561 (4pp1358)

PACI= ★ D12 .66148B/36 ★SU -635-953

Cooked fish products prepn. - includes two/stage vacuum treatment at elevated temp. with intermediate cooking

PACIFIC OCEAN FISH 11.04.77-SU-475444

(15.12.78) A23l-01/32

Food prods. can be prepd. by mixing a fish pulp with additives; keeping the mixt. in vacuum and then cooking. The structural-mechanical properties and the quality of the prod. can be improved by additionally exposing the prod. after the cooking, to vacuum (10-60 mm Hg) for 5-10 mins. at the temp. of the cooked prod. The vacuum treatment before the cooking is carried out at 10-60 mm Hg and 18-30°C for 10-20 mins. The prod. can be used in the form of a paste, pudding, sausages etc.

Didenko A.P., and Goroshko T.N., Bul. 45/5.12.78 11.4.77 as 475444 (2pp70)

PETT/ ★ D12 66153B/36 ★SW 7711-

Electric shock appts. to stun pigs before slaughter - clar electrodes onto pig's ears for predetermined duration when p snout strikes bottom of metal basket

PETTERSSON L 18.10.77-SW-011703

(05.06.79) A22b-03/06

HAGE/ D12 36719A/21 =US 4165-

Frozen metal block cutting machine - with support plate over thr cylinder for temporary block deposition

HAGER J (MAGU-) 05.11.76-DT-650690 (14.09.76-DT-U28629)

*P41 · (21.08.79) *DT2650-690 B02c-18/22*

Blocks of frozen meat are cut in a machine which has a frame on which is mounted a support, and a cutter adjac one end of the support; and a pusher member movable ac oss the support between positions remote from and adjac the cutter. The member has a front wall facing the cutte for locating a block of meat, and a plate extending from upper edge of the front wall in a direction pointing away from the cutter.

A stationary desk is mounted on the frame and cover the front wall and the plate of the pusher member when th member is in the position remove from the cutter.

The machine can be operated continuously. 3.8.77 as 814264 (9pp1376)

See Also

D13 DS 2416129 D13 GB 1551727

D13: OTHER FOODSTUFFS

ALFA ★ D13 64736B/36 ★BE -875-724

Gravity pressure extrusion to mfr. blocks of cheese from curds - under vacuum pressure temporarily relieved to prevent sticking during extrusion

ALFA LAVAL AB 20.04.78-GB-015749

P13 (16.08.79) A01j

Curds are loaded into the top of a hollow, perforated column. The wt. of curds compacts curds in the lower part of the column and drains compacted curds by squeezing moisture through the perforations. The compacted curds is extruded from the lower end of the column and cut into blocks. The column is contained in a vaccum chamber.

Each time curds is extruded from the column, pressure in the vacuum chamber is temporarily raised. This comprises slightly the mass of curds sliding down the column so that the cross-section of the mass is slightly reduced. After extrusion, pressure in the vacuum chamber is again dropped below atmospheric as the column is refilled with curds.

Used to mfr. blocks of natural cheese, e.g. cheddar. Economic, high speed production at a much faster rate than forming in individual moulds. The reduction in cross-section during raised pressure ensures that the mass of curds does not stick in the cylinder during extrusion, with danger of breakage of chesse. 20.4.79 as 875724 (24pp448)

TEAR- D13 50522T/32 #DS 2123-778

Tea leaf processing machine - for working and cutting withered leaf

TEA RES ASSOCIATION (TEA -) 12.08.70-IN-128008 (13.05.71-DT-123778)

*(30.08.79) *GB1284-853 A23f-03/04*

Tea leaves are cut to a uniform size by means of a feed and cutting device comprising a hollow drum in which a scroll feeder is mounted into which the whole tea leaves are fed and, at the discharge end of the drum a stationary and a rotating plate with cutting openings through which the leaves pass whilst being cut to size. The rotating plate is mounted on a shaft coaxial with the scrool feeder shaft which extends from the drive end of the scroll feeder through the discharge end.

The arrangement is such that, with appropriate gearin both the feeder and the cutting plate can be driven by the one motor. The device enables leaves to be accurately and uniformly cut to size, the size being selected by varyi ing the relative speeds of the feeder scroll and the cutting plate and by appropriate choice of cutting hole sizes and orientations. 13.5.71 as 123778 (8pp1378)

FREU- D13 32155T/20 =DS 2153-71

Waste removal from beans - by feeding the beans over gaps les than bean length

FRANCO-EURO MAT IND 06.11.70-FR-040065

*+P43 (30.08.79) *BE-774-866 B07b-13*

Green beans are closed and sepd. from the rubbish by means of a vibrating frame on which there is a feed box into which the soiled beans are fed and a series of descending plateaus in cascade over which the beans pass. The feed hopper has there vertical walls and the front side is open. The beams are aligned in the direction of travel through the machine by means of a number of horizontal rods which only permit correctly aligned beans to fall through.

The floor of the box consists of a series of parallel channels separated by inverted V's into which the aligned beans fall before passing onto the cascade under the influence of the vibrations. Each plateau consists of a similar series of channels aligned in the direction of motio of the beans whilst each plateau is sepd. from the adjoining plateaus by narrow slits through which foreign matter falls.

The machine cleans the beans and separates the dirt in a more thorough and consistent manner than traditional machines which use perforated plates. 28.10.71 as 153710 (5pp1370)

MRSC D13 46915T/29 =DS 2201-160

Meaty protein food - contains protein fibres bonded together in bunches with a coagulated binder

MARS LTD (PETO) 12.01.71-GB-001514

*C03 (30.08.79) *BE-777-917 A23j-03*

Prodn. of meat-like protein nutrients comprises saturatg bundles of edible protein fibre and the usual additives a binding agent, compacting the material, and coagula- g the binding agent by heat or chemical reaction, pref. th a hot soln. of substances which readily form a gel.

The prods are valuable nutrients. 11. 1. 72 as 201160 pp047)

IC D13 72792V/42 =DS 2416-129
llulosic fibrous casing for foods eg sausages - coated with ermo-setting resin to prevent degradation by cellulolytic enzymes
UNION CARBIDE CORP 04.04.73-US-347685
*A97 +P73 Q34 (D12) (30.08.79) *BE-813-250 A22c-13 B65d-65/38*

n opaque, fibrous cellulose casing, which is coated on oth sides with a hardened, cationic, heat-hardenable esin (I) is used as casing for preserved sausages such s salami. Resin I may be cationic melamine-formaldehyde esin, modified cationic urea-formaldehyde resin or e reaction prod. of epichlorohydrin with a polyamide.

The casing is resistant to degradation by cellulose and ellulytic enzymes. 3. 4. 74 as 416129 (5pp068)

OLD D13 86200A/48 =DS 2734-059
actic acid, citric acid and fatty acid partial glyceride mixed ester - repd. by esterification of alkali metal lactate, lactic acid, citric acid nd fatty acid partial glyceride at 120-140 degrees
GOLDSCHMIDT TH AG 28.07.77-DT-734059
*B05 C03 E17 (30.08.79) *BE-869-368 C07c-69/67*

repn. of mixed esters from lactic acid, citric acid and artially esterified glycerol, (acid no 10-200), comprises eating a mixt. of alkali lactate, (0. 5-2 moles), and lactic cid, (0. 5-3 moles), with citric acid, (1 mole), at 20-140°, followed by heating with partially esterified glycerol, (0. 2-2 moles), contg. ≥ 50 wt. % pref, 90 wt. % of monoesters with fatty acids, removing water azeotropically or the reaction is conducted in one stage. The prods. are used in the pharmaceutical, cosmetic and food industries. 28. 7. 77 as 734059 (4pp047)

NORD/ ★ D13 64854B/36 ★DT 2808-160
Tablets produced from chewing gum granulate - obtained by cooling chewing gum until it becomes brittle
NORDSTROM R 25.02.78-DT-808160
B07 (30.08.79) A23g-03/30 A61k-09/68

New tables are produced from a chewing gum granulate. Tablets based on chewing gum granulates can be produced using conventional tabletting equipment. The chewing gum granulate can be used to achieve prolonged or delayed release of medicament. Furthermore, a sweet chewing gum core can be surrounded with a mantle contg. a bitter active ingredient; in this case, the initial bitter flavour becomes overlaid with the sweetness of the chewing gum, which is more acceptable than the usual case of an initially sweet flavour accompanied by a bitter aftertaste.

The chewing gum granulate may contain the active ingredient, or the chewing gum granulate may be compressed together with a conventional tabletting granulate contg. the active ingredient. In an alternative formulation, the tablet may be in several layers, some of which may consist of conventional tabletting granulates. 25.2.78 as 808160 (6pp280)

UNIL ★ D13 64861B/36 ★DT 2808-248
Curds and whey mixture delivery system - tips initial solids-free whey followed by curds into separate troughs
DEUT UNILEVER GMBH 25.02.78-DT-808248
P13 (30.08.79) A01j-25/10

The system continuously delivers a stream of curds and whey generated by tipping out vessels containing a mixt. of them and straining off the free whey in the process. On commencement of tipping, the whey initially discharged, and which is free of solids, is delivered into a separate whey trough.

Then the curds largely free of whey are discharged into a curds trough. From the latter they are directed to a whey-removal filter belt. By metered fluid supply a stream of curds and whey of constant proportions can be maintained in the curds trough. 25.2.78 as 808248 (14pp)

ARLA- ★ D13 64892B/36 ★DT 2903-577
Refining of dried whey products for improved flavour - by extraction with polar organic solvents esp. with ethanol
MJOLKCENTRALEN ARLA 16.02.78-SW-001821
(30.08.79) A23c-21

Food products derived from whey, are refined by treating them with polar, organic fluids. Lower, aliphatic alcohols (esp. ethanol) are used; the polarity of the extract obtd. being determined beforehand by the selection, or the combination of fluids with dissimilar polarity, and original water content, with consideration being given to the protein content and the water content of the dried whey product, as well as of its content of extracted matter, esp. lactic acids.

The desired refining effect in the form of a controllable aggregation of the dried whey product is obtd. by swelling and partial denaturing of the originally received proteins, whilst at the same time an extraction of the unwanted components is pressed forward.

Used for the mfr. of dried products from whey in which the constituents causing the familiar, unpleasant "whey flavour" (lactic acids, some urea, nitrates and nitrites) are eliminated by their more or less complete extraction. 31.1.79 as 903577 (10pp1045)

DOUW ★ D13 64900B/36 ★DT 2905-372
Improving organoleptic properties of vapour distillate - used in mfg. instant coffee, by contacting distillate with ground roasted coffee bean fines (NL 20.8.79)
DOUWE EGBERTS KON 16.02.78-NL-001778
(30.08.79) A23f-01/08

Organoleptic properties of vapour distillate derived from roasted coffee beans are improved by bringing the distillate into intimate contact with a quantity of ground roasted coffee and then removing it from the distillate.

Used in mfg. extracts for use in instant coffee mfr. Undesirable after-taste of vapour distillate is removed and the final product has improved flavour. 13.2.79 as 905372 (10pp536)

TATL ★ D13 65018B/36 ★EP ---3-911
Rapid, high yield thaumatin extraction - from dried, comminuted, separated fruit arils using acidic water
TATE & LYLE PATENT 01.03.78-GB-008111
(05.09.79) A23l-01/22 C07g-07
D/S: E(BE, CH, DT, FR, IT, LU, NL).

Thaumatin is obtd. by skinning the fruit of Thaumatococcus daniellii, drying the pulp, mechanically separating the arils from the remainder of the fruit, powdering or otherwise comminuting the dried arils, and extracting the powder with water in the absence of added salts, while maintaining the pH at 2.0-4.5, pref. 2.5-3.5, esp. 2.7-3.

The protein sweetener, thaumatin, can be rapidly extracted in a high yield. It may be isolated in high purity by ultrafiltration and freeze-drying of the extract, and is free of salts.

22.2.79 as 300283 (8pp558)

(E) ISR: US3878184; GB1501409; 1 Journal Reference.

KRFT D13 02074Y/02 =GB 1550-434
Continuous prodn. line to mfr. processed cheese - cooks with live steam injected into pressurised mixt. of raw materials
KRAFTCO INC 02.09.75-US-609520
*P13 (15.08.79) *BE-845-717 +A23c-19/12*

Continuous in-line mfr. of processed cheese comprises blending a cold mix at ambient temp., passing through heating and mixing zones until a homogeneous melt, and transferring to a chamber at pressure lower than in the mixer to cool, deaerate and reduce moisture content.

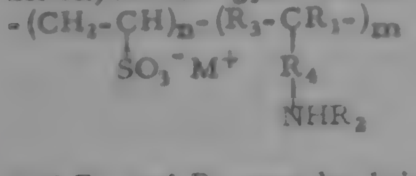
The heating zone includes a steam injection line within a housing, the mix passing between conduit and housing. The melt is pref. at 165-300°F. after leaving the mixer and is cooled to 150-210°F. in the chamber. The mixer pref includes a static mixer and a strainer, and a valve between mixer and chamber establishes a 4-10 psig. pressure on the melt. 23.8.76 as 035016 (9pp1358)

DYNL D13 27183Y/16 =GB 1550-490

Ethyl sulphonate-alkylamine copolymers - as trunks for water-soluble polymeric dyes for foods, drinks, medicaments, textiles, plastics, etc.

DYNAPOL 08.12.75-US-638731
*A14 B07 E24 (15.08.79) *BE-849-194 A23l-01/27 C08f-226/02 C08f-228/02*

Copolymers comprise repeating vinylsulphonate and 2-6C alkenylamine gps. Pref. copolymers have formula:



$$-(CH_2-\underset{SO_3^-M^+}{\underset{|}{CH}})_n-(R_3-\underset{\underset{NHR_2}{|}}{\underset{R_4}{\underset{|}{C}}}R_1-)_m$$

where R_1 and R_2 are H, or 1-4C alkyl; R_3 is 1-4C alkylene; R_4 is a direct bond or 1-4C alkylene; where R_1, R_2, R_3 and R_4 together contain ⩽5C, and R_2 and R_3 may be joined to form a 1-4C alkylene gp.; n and m are integers such that m+n = 20-8000 and n = (0.4-2.5) m; and M is alkali metal. The alkylamine unit is esp. ethylamine and the alkali metal, Na.

The copolymers are excellent backbones for water soluble polymeric colourants. They impart high degree of water solubility while contributing min. wt. to the polymer. Such colourants are used for colouring fibres, inks, paints, foods, drinks, medicines, etc. When of appropriate mol. wt., they will pass through the gastrointestinal track without breakdown or absorption. 24.11.76 as 049020 (12pp945)

RANG D13 07588Y/05 =GB 1551-727

Meat and fish substitutes with a fibrous layered structure - by extruding compressed protein mass and forming into layers

RANK HOVIS MCDOUGAL LTD 25.05.76-GB-021620 (17.09.75-GB-038195)
*(D12) (30.08.79) *BE-846-288 A23j B29f-03 +B29c-24*

Proteinaceous masses are formed into fibrous and layer structures similar to meat or fish, by moving the mass in a helical and at the same time compressing the mass to form a fibrous structure, extruding the compressed mass through an elongate slot, and changing the direction of movement of the extrudate to form folds to give a layered structure. Compression and extrusion are both at elevated temps.

Alternatively, the slot is annular and the extrudate emerges into an opening radially of the slot so that folds are formed. The appearance of meat or fish can be simulated using soya. 27.8.76 (19pp1376)

DUPO D13 45552Y/26 =GB 1552-012

Separating comminuted plant material contg. protein into fractions - by mixing withsolvent and separating fraction contg. endosperm

DU PONT OF CANADA L 16.12.75-GB-051498
*+P41 (D23) (05.09.79) *DT2657-034 B02b-05/02*

Comminuted oats are fractionated by mixing with pentane, hexane, heptane, cyclohexane, or an alcohol with 1-4C atoms or a mixture of solvents to extract oil, slurrying the mixture, then centrifuging into two or more fractions.

The starting material is pref. dehulled oats, and the process produces oil, flour and bran. The bran is pref. further comminuted, slurried with solvent and centrifuged to give further flour and bran. A slurry of one fraction with solvent is pref. further centrifuged to give two additional fractions differing in protein content. 10.12.76 (13pp1358)

CAMP- D13 55774Y/31 #GB 1552-091

Texturised protein chunks mfr. - by heating and forcing a protein slurry through a restricted zone

CAMPBELL SOUP CO 31.12.75-US-645556 (07.07.77-GB-028525)
*(05.09.79) *US4038-432 +A23j-03*

Prodn. of texturised protein in the form of large diceable chunks comprises (a) mixing untextured protein material and water to form slurry contg. 40-50% solids; (b) injecting a heated gas stream into the slurry to propell the slurry through a confined treating zone, the gas being at a temp. sufficient to maintain the zone at 310-350°F. to render the protein material thermoplastic; (c) passing the treated material through agglomerating and stretching means; (d) transferring the texturised material out of the confined treating zone through a means for maintaining back-pressure which gently removes large diceable chunks of the protein material; and (e) recovering the chunks from a collection zone.

The untextured protein material contains ⩾70% protein, and pref. comprises 50-60% soy flour and 40-50% soy protein isolate. The prod. has the fibrous texture an mouth feel of animal meat. 7.7.77 as 028525 (13pp924)

CADB ★ D13 65087B/36 ★GB 2014-83

Mfr. of textured vegetable protein with a paste like consistency - fo prepn. of soft and spreadable prods. e.g. simulating meat paste

CADBURY TYPHOO 22.03.79-GB-010089 (23.12.77-GB-053692)
(05.09.79) A23j-03

A textured vegetable protein having a particle size which is the final prod. gives a meal-like textural mouth feel characteristic is prepd. by hydrating the protein with H_2O having a pH < 8.5 to give an H_2O intake which is less than theoretical max. The material is then drained and combined with molten fat and a texture forming agent to give a paste texture. Pref. additional flavouring agents are adde and the prod. is comminuted and packed.

The paste-like protein is used to prepare soft and spreadable prods. which simulate meat and fish pastes, pate, mousse, spread, etc. 22.3.79 as 010089 (5pp1355)

ENER- ★ D13 B/36 ★HU T016-867

Preserving proteinaceous plant materials - by comminuting, coagulating and dehydrating

ENERGIAGAZDALKODASI 03.04.76-HU-EE2416
(28.08.79) A23k-03/02

DAII ★ D13 65303B/36 ★J5 4093-686

Powdered emulsifying foaming agent - prepd. by adding edible surfactant and beta cyclodextrin to sugar(s) and/or sugar alcohol while in molten state, then cooling

DAIICHI KOGYO SEIYAKU 05.01.78-JA-000402
(24.07.79) A21d-02/14 C09k-03

Powdered emulsifying foaming agent is claimed suitable fo use in the prodn. of food and drink, esp. confectionery, exhibiting excellent water solubility and rapid foamability. Emulsifying foaming agent is prepd. by adding an edible surfactant e.g. sucrose-fatty acid ester (the fatty acid has 8-22C and iodine value of <25) and beta-cyclodextrin to sugars and/or sugar alcohol, maintaining under melted state, followed by cooling and pulverisation.

In an example, 79.8 pts. wt. fine granulated sugar and 10 pts. wt. sorbitol were added to water and heated at 80°C. so as to be dissolved, after which 10 pts. wt. of an activating compsn. comprising 50% hardened beef tallow fatty acid glyceride, 40% sucrose-palmitic acid ester and 10% sorbitan monostearate and 0.2 pts. wt. beta-cyclodextrin were added under agitation at 125°C. followed by instantaneously cooling-down to room temp. to solidify them and pulverisation to give the prod. 5.1.78 as 000402 (2pp34)

MEIP ★ D13 65615B/36 ★J5 4095-745

Simultaneous refining of lactose and casein - by treatment with granular active carbon

MEIJI MILK PRODS KK 11.01.78-JA-001198
(D17) (28.07.79) A23j-03 C13k-05

The method comprises mixing aq. crude lactose soln. and aq. unrefined casein soln. and treating the mixt. with granular active carbon at 45-65 pref. 50-60°C. When the refining is interrupted, the aq. lactose soln. having a concn. >30 w/w% is pref. recirculated through the column of granular active carbon to prevent the putrefaction.

Lactose and the casein which are originated from milk and are often used together in foods, can be refined simultaneously while preventing the Maillard reaction and preventing putrefaction during interruption of the refining. Thus refining costs are reduced.

Suitably lactose and casein are previously converted to aq. 20-50 w/w% soln. and aq. 5-13 w/w% alkaline soln. respectively and prior to the refining they are mixed in the proper proportions. 11.1.78 as 001198 (4pp5)

DAII ★ D13 65617B/36 ★J5 4095-748

Sucrose fatty acid ester compsn. - prepd. by dispersing or dissolving stabiliser, sucrose fatty acid ester and sugar, dextrin and/or sugar alcohol in water, and spray-drying

DAIICHI KOGYO SEIYAKU 12.01.78-JA-002526
E13 (28.07.79) A21d-10/04 A23d-05 A23l-01

Compsn. is prepd. by dispersing or dissolving (a) sucrose acid ester (I); (b) sugar, dextrin and/or sugar alco- and (c) stabiliser in water, and spray-drying the dis- sion or the soln.

Compsn. has good water dispersibility and can be used ectly without complex pretreatment. Compsn. is pow- , can be easily handled and is storage stable.

tabiliser is e.g. casein sodium gelatin, sodium argin- gum arabic etc. (I) pref. is prepd. from 12-22C satd. y acid and has HLB value >10 and is pref. present in compsn. as 5-30 w/w%. 12.1.78 as 002526 (2pp5)

AK ★ D13 65618B/36 ★J5 4095-749

pn. of synthetic resin film, coated with soybean protein - is med into a tube and used for packaging foodstuffs such as ham, sage and boiled fish paste

OSAKA KAGAKU KOKIN KK (FUKO) 30.12.77-JA-159793

A92 (28.07.79) A22c-13 A23b-04/10 A23l-03

thod comprises (1) preparing an aq. dispersion contg. >40 w/w% of soybean protein (as solid weight), (b) other otein and/or polysaccharide and (c) polyhydric alcohol plasticiser and (2) spreading the dispersion on a syn- etic resin film which is active to soybean protein.

The film is formed into a tube, the inner surface of ich is of the soybean protein film. The tube can be used packaging material for ham, sausage, boiled fish paste, c. and, after sealing, it is heat-treated at ca. 80°C. hus treated ham, etc. can be preserved at ca. -50°C. for nger than a month without the sepn. of water.

As the other protein (b), casein, collagen, egg white d/or gelatin can be used and as the polysaccharide, arch and/or a cellulose deriv. can be used. As polyhy- ric alcohol, glycerin, sorbit, mannit and/or propylene- ycol can be used and they are used in an amt. of 10-40 /w% on protein material ((a) + (b)). The aq. dispersion adjusted to viscosity 10-500 P and is spread so that e protein film has a thickness of 1-100 u. The synthetic esin film is pref. of heat-shrinkable resin and the film hows a surface activity of >38 dyne/cm. expressed as et indicator. 30.12.77 as 159793 (5pp5)

JIN ★ D13 65619B/36 ★J5 4095-761

mproving the quality of denatured defatted soybean protein - by orming aq. slurry, extruding, pulverising the protein granules and assing through a pipe at a specified temp.

AJINOMOTO KK 10.01.78-JA-001454

(28.07.79) A23l-01/20

he method comprises (1) extruding the aq. slurry of the efatted soy bean which is previously denatured with heat nd/or alcohol, in pipe line through orifice under pres- ure, (2) thus pulverising the protein granules of defatted soy bean and (3) flowing it at <110°C. through the pipe ine.

The water solubility of denatured soy bean protein can be restored by treating the aq. slurry of denatured de- fatted soy bean under moderate condition and from it the separated soy bean protein can be obtd. with a yield equal to that attained by undenatured defatted soy bean. Excel- lent gel property can be attained.

Denatured defatted soy bean is made aq. slurry with 4- 20 times amt. of water and it is desirable to regulate pH of the aq. slurry to 6.5-9.0 favourably 7.0-8.0 with edible alkali for attaining better quality-improving effect. It is also desirable to add reducing agent such as sodium bi- sulphite, etc. or surfactant such as sucrose fatty acid ester, lecithin, etc. 10.1.78 as 001454 (5pp5)

SUGY ★ D13 65620B/36 ★J5 4095-762

Prepn. of fried bean curd used as instant noodle - from highly denatured defatted soybean by immersing in aq. sulphite soln., extracting protein, coagulating, etc. and frying

SUGIYAMA SANGYO KAG 09.01.78-JA-001040

(28.07.79) A23l-01/20

Curd is sepd. by (a) immersing the highly denatured defatted soy bean previously crushed to above 60 mesh and having NSI <30, in an aq. soln. of the sulphite, of which amt. is 0.1-0.5 w/w% on the defatted soy bean, (b) adjusting pH of the immersing soln. to 1-3 with acid to extract protein, (c) IEP-coagulating protein by adjusting its pH to 4.0-4.5 with alkali and (d) dehydrating the coagulated protein. The dough for fried bean curd is prepd. by combining starch or grain powder, of which amt. is 20-40 w/w% on dry solid of the sepd. curd, and $NaHCO_3$, of which amt. is enough to make pH of the sepd. curd 5.5-7.0, in the sepd. curd and kneading the mixt. The dough is moulded and fried

The fried bean curd which has tough structure and can retain its shape during its processing, is prepd. cheaply in high yield from highly denatured defatted soy bean of NSI <30. 9.1.78 as 001040 (3pp5)

SNOW ★ D13 65621B/36 ★J5 4095-768

Synthetic milk with similar protein content to human milk - is prepd. by sepg. the casein from an. aq. soln. of its alkali metal salt, and adding to protein, sugar, fat, minerals, vitamin(s) etc.

SNOW BRAND MILK PRODUCTS 11.01.78-JA-001078

(28.07.79) A23c-09/10

The method comprises (a) cooling an aq. soln. contg. alkali metal salt of casein, of protein concn. 0.5-6% and pH 7-10, to 0-15°C. (b) adding divalent cations to the soln., (c) sepg. the caseinate ppte., (d) sepg. the casein from the residual soln. and (e) using thus sepd. casein with protein, sugar, fat, mineral, vitamin, etc.

The milk has a similar protein content as human milk and can be given to children. The casein mixt. can be easily and inexpensively fractionated and a fraction of mainly β-casein and κ-casein can be obtd. 11.1.78 as 001078 (7pp5)

DNIN ★ D13 65622B/36 ★J5 4095-770

Fermented milk food prodn. - using lactic acid bacteria with addn. of phycocyanin to culture medium before or during fermentation

DAINIPPON INK CHEM KK 12.01.78-JA-001543

(A16) (28.07.79) A23c-09/12 A23c-11 A23l-01/27 C12k-03

The method is effected using lactic acid bacteria with addn. of phycocyanin in the culture medium before or during the fermentation.

Phycocyanin is a non-toxic natural green pigment and a peptide having molecular weight 100000-200000. With it the multiplying velocity of lactic acid can be increased and excellent curd can be formed in a short time. The fermented milk food has excellent refreshing feel and taste and flavour.

Phycocyanin can be extracted from Cyanophyta and Rhodophyta.

Usually the dry extract is added 0.05-0.5 w/w% on the culture medium. During the fermentation phycocyanin is not decomposed and the clear green fermented milk food can be obtained. 12.1.78 as 001543 (4pp5)

SNOW ★ D13 65623B/36 ★J5 4095-771

Soybean protein drink prepn. - by adding casein and aq. calcium salt soln. to aq. soybean protein soln. to prevent pptn. of soybean protein

SNOW BRAND MILK PRODUCTS 12.01.78-JA-001560

(28.07.79) A23c-11

The method comprises combining (a) one or more kinds of casein selected from κ-casein, casein rich in κ-casein and de-phosphorised β-casein and (b) aq. Ca salt soln. with aq. soy bean protein soln. to prevent pptn. of soybean protein.

Casein rich in κ-casein can be obtd. by cooling the alkali metal salt soln. of milk casein having protein concn. 0.5-6% and pH 7-10, to 0-15°C., adding divalent cation, removing formed ppte. mainly of α_s-casein and sepg. casein from the soln. De-phosphorised β-casein can be prepd. by treating β-casein with phosphoprotein-phosphatase sepd. from wheat, embryo, potato, spleen of ox, etc. 12.1.78 as 001560 (4pp5)

KATA D13 19396X/11 =J7 9022-909

Silkworm feed with growth promoting activity - contg. 2,4-diamino-5(6-methyl 2,4-dimethoxy)pyrimidine

KATAKURA IND KK 18.06.74-JA-068775

*C02 P14 (09.08.79) *J51010-089 A23k-01/18 +A61k-31/50*

The feed contains mulberry leaves or other feeds mixed with 0.01-500 mg. of 2, 4-diamino 5(6-methyl 2, 4-dimethoxy) pyrimidine based on 100 gm of dried feed. The cpd. is added with a carrier, surfactant, spreader and diluting agent. 18. 6. 74 as 068775 A23k-1/18 A61k-31/505 (9. 8. 79) KATAKURA IND KK (AJIN) (3pp)(J51010089)

MITK ★ D13 657598/36 ★J7 9022-919

Fish feedstuff for e.g. carp, trout, eel or lobster - contains ribonucleic acid and/or a fission prod. of ribonucleic acid

MITSUI TOATSU CHEM INC 21.02.69-JA-012588
C03 (09.08.79) A23k-01/18

The feedstuff is prepd. by adding commercial ribonucleic acid, of mol. wt. 6, 500-25, 000, and a fission prod. of ribonucleic acid to usual feedstuff. The body wt. of the fish is remarkably increased. Pref. 0. 001-1 wt. % of the ribonucleic acid or its fission prod. is added to the feedstuff.

In an example 2 of 0. 4% aq. NaOH was added to 100 g ribonucleic acid, and the temp. of the mixt. was maintained at 60°C. for 25 min. with stirring. Thereafter 6 N aq. HCl was then added to adjust the pH of the reaction mixt. to 6. 97, and the mixt. was evaporated and dried. The dried prod. was pulverised, so that 105. 3 g white powdered was recovered, 100-500 mg of this white powder was added to a feedstuff of 74 % wt. fish meal, 20 wt. % gluten, 1 wt. % Helver's vitamin mixt. and 5 wt. % feed oil. 21. 2. 69 as 012588 A23k-1/18 (9. 8. 79) MITSUI TOATSU CHEM INC (3pp68)

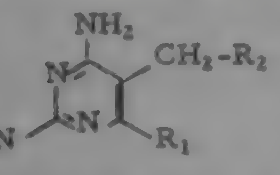
HOFF D13 34013V/18 =J7 9022-920

Antibacterial treatment of fish food - by adding a sulphonamide with a 2,4-amino-5 benzylpyrimidine builder

HOFFMANN-LA ROCHE AG 12.10.72-CH-014928
*C02 (09.08.79) *NL7313-342 A23k-01/18 C07d-239/48 C07d-261/16*

Fish food contains a sulphonamide (I) which is a pyrimidine, pyrazine or isooxazole deriv. as antibacterial agent together with a 2, 4-diamino-5-benzyl-pyrimidine (II) where R_1=H or 1-6C alkyl and R_2= a phenyl gp. substd. by one or more 1-6C alkyl. 1-6C alkoxy, methylenedioxy, amino, nitro, hydroxyl and/or halogen gps. as builder.

(I)



The additives are esp. useful in preventing disease in breeding areas of edible fish such as salmon, carp, trout, etc. 9. 10. 73 as 112898 (clg. 12. 10. 72-CH-014928) A23k-1/18, C07-239/48, 239/52, 261/16 (9. 8. 79) F HOFFMANN LA ROCHE (7pp)(J49069493)

SAOK D13 44324Y/25 =J7 9023-000

Crystalline stevioside prodn. giving purer prod. - from aq. extracts of Stevia rebaudiana Bartoni, by prepurificn., extn. with alcohol and recrystallisation from water

SANYO KOKUSAKU PULP (SANN) 05.11.75-JA-132108
*B03 E13 (10.08.79) *J52057-199 A23l-01/22 C07h-15/24*

Stevia rebaudiana Bartoni is extracted with water or an aq. solvent (e.g. aq (m)ethanol), and the resulting extract is then subjected to a pre-purificn. procedure, e.g. treatment with calcium hydroxide followed by removal of insoluble matter followed by treatment with chloroform.

The resulting crude matter contg. stevioside is concd. to dryness, and the solid is extracted with an alcohol followed by removal of any insoluble material. The extract is concd. and the crystals obtd. are dissolved in hot water, followed by cooling. The pptd. crystals are then dried in hot air at 130-195°C.

Yield of the pure crystals is >95%. The purity of the resulting crystals is improved by 10-20% cf. purificn. by an ion-exchange method. 5. 11. 75 as 132108 A231-1/22, C07h-15/24 (10. 8. 79) SANYO-KOKUSAKU PULP (3pp) (J52057199)

UNIL D13 74313V/43 =NL-161-039

Pasteurised, packaged instant cake dough - from foamed whole egg-sugar phase and fat-flour phase

UNILEVER NV 11.04.73-GB-017293
*(15.08.79) *BE-813-384 A21d-06*

A packed, ready-to-bake cake dough (I)is prepd. by (a) preparing an aq. phase with a water-activity of 0. 85, by forming a mixt. of eggs, sugar and opt. polyvalent alcohol to obtain the signified water-activity. The mixt. is opt. mixed with water, surfactant and thickening agent and heated to pasteurise it without denaturising the proteins, (b) a fat-phase is prepd. by melting fat, adding fine flour and keeping the mixt. at a temp. which pasteurises it without denaturising the flour proteins, (c) foaming the water-phase with a gas, (d) mixing this with a cooled fat phase and (e filling the cake dough aseptically into containers.

(I) can be stored in the fridge for several weeks and gives cakes of excellent quality. The process gives a pr that contains all ingredients, including eggs, used at ho and needs no 'ageing' steps.

The fat-phase is pref. prepd. at 95°C and is cooled t 30-50°C before mixing. The water-phase is pref. prepd. 70°C and kept at this temp. for 5-20 mins. (I) is packed to hermetically-closed containers, such as aluminium fo in which a mixture of CO_2 and N_2 is first supplied. Thes containers may be used for baking. 11. 4. 74 as 004953 (5

UNIL D13 58645S/36 =NL-161-0

Edible water-in-oil emulsions prepn

UNILEVER NV 09.03.70-LU-060482
*(15.08.79) *BE-763-812 A23d-03/02*

A table margarine (I) is prepd. by adding 40-70 wt % of water-phase, at 0-8°C, to 60-30 wt % of a fat phase wit dilatation at 10°C of min 100 mm^3/25 g and at min. 28°C The (partly) crystallised mixt. is emulsified without furt er cooling, worked up and packed.

(I) may be used to smear on bread. A pleasing prod. i obtd. by incorporating a gas, such as N_2, which gives the prod. a mat surface, porous structure and soft consiste with improved melting behaviour in the mouth. The process gives a product with good plastic properties, which spreads easily and is more elastic than known prods. Th quantity of prod. processed can be increased or decrease by 25% without altering the r. p. m. of the emulsifying un The prod. stream can be interrupted for short periods wi-out the risk of freezing. The process allows the quantit of prod. processed to be commensurate with capacity of the packing band. The temp. of the final mixing may vary from 5-20°C. 5. 3. 71 as 002934 (9pp279)

FEIK/ D13 23209R/14 =NL-161-0

Process for impregnating plant seed with pharmaceuticals - etc

FEIKENS H (FEI /) 02.10.68-DT-800544
*B07 C03 (15.08.79) *BE-739-710 +A23k-01/16 A61k-35/78*

Plant seeds are impregnated with physiologically active material by immersing them in solns. in polyvalent alcohols, pref. propylene glycol or glycerol.

Method is suitable for fortifying grain feed, e. g. for birds, with supplements of vitamins, amino acids miner antibiotics, chemotherapeutics and other additives. Deleterious effects on quality associated with prior methods using steam treatment are obviated. 2. 10. 69 as 014910 (3p

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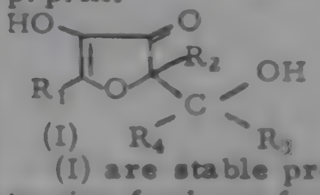
UNIL D13 06645V/05 =NL-161-0

Food flavouring agents - consisting of 2,5-dimethyl-4-hydroxy- (2H) furanone/carbonyl cpd reaction prods

UNILEVER NV 12.07.72-GB-032653
*E13 (15.08.79) *NL7309-647 A23l-01/22 C07d-307/60*

Foodstuffs which are heated to min. 100°C before consum tion may be aromatised by adding a 2, 5-substd. deriv. of hydroxy 2, 3-dihydrofuran 3-one of formula (I) at 0. 1-500 p. p. m.



In (I), R_1 and R_2 are 1-4C alkyl, R_3 is H or methyl, R_4 is H or an organ ic gp. with 1-14C -atoms, H-atom and 0-2 O-atoms, whereby R_4 is m 4C when R_3 is methyl.

(I) are stable precursors to furenidones which are use to give feed- or forify a meaty taste to foodstuffs such as shortenings, fats, margarines, soups, meat powders, bakery prods. etc. (I) are easily prepd. are stable upon storage and form furenidones upon heating. The carbonyl cp used to prepare (I) has aromatic properties itself. 11. 7. as 009647 (8pp279)

STER= D13 96224X/52 #NL-161-12

2,6-Di-tert-butyl 4-methyl phenol prepn. by hydrogenolysis - of N,N dimethyl 3,5 -di-tert-butyl 4-hydroxy benzylamine with prod. solvent

STERLITAMAXKY OPYTN 08.06.76-BE-842690 (08.06.76-NL 006173)
*A60 E14 F06 (15.08.79) *BE-842-690 C07c-37/10 C07c-39/06*

2, 6-Di-tert. butyl 4-methylphenol (I) is prepd. by catalytic hydrogenation of N, N-dimethyl(3, 5-di-tert. butyl 4-hydro enzyl)amine in the presence of a sintered catalyst contg. Ti and Al and using (I) as a solvent.

(I) is a stabilising agnet for various types of synthetic bber. It protects vulcanisation on the basis of natural bber, butadiene-styrene-, isoprene-, butadiene-, butadne-nitrile- and chloroprene rubber against thermic ageg and partly against ageing by light. It is also used in ght and coloured rubber objects and as a thermic stabilisng agent for polyethylene- and polypropylene fibres. It ay also be used as stabiliser for food products.

The process is simple, economical and gives a much tter quality. 8.6.76 as 006173 (3pp279)

ON D13 49430S/30 =NL-161-140

zeaxanthin and its esters from retrodehyd

RHONE-POULENC SA 15.01.70-FR-001415

*B05 C03 E24 (E14) (15.08.79) *DT2101-869 C07c-175 +A23l-01/27 C09b-57*

ozeazanthine or 4,4'-dihydroxy-β-carotene and esters th satd. aliphatic mono- carboxylic acids, are prepd. by acting retrodehydro-β-carotene with I_2 in the presence of e acid and an basic organic cpd. in an acid medium. The olar ratios used are I_2: retrodehydro-β-carotene of 1:1, sic cpd: I_2 of $\geqslant$ 1:1, and the satd. acid is present in at ast stoichiometric amt. The ester obtd. is opt. saponified the free acid. The prod. is used as a colourant for food.

Reaction is effected, e.g in an inert solvent such as chloroform, aromatic hydfocarbons, DMF, acetone, acetonitrie and nitrobenzene, at -5 to +35°C. Yields are improved e.g. 47%) compared with prior method reacting retrodehydro-β-carotene with lead tetraacetate (e.g. 22.5%). .1.71 as 000170 (4pp913)

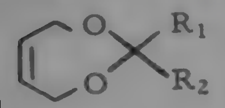
IVA D13 53513V/29 =NL-161-151

,7-Dihydro-2-(3-pentyl)-1,3-dioxepin - used as food flavourant and erfume odourant

GIVAUDAN L & CIE SA 16.03.73-US-342122 (15.03.73-US-341628)

*E13 (D23) (15.08.79) *US3822-291 A23l-01/22 A61k-07/46 C07d-321/06 C11b-09*

New 4,7-dihydro 1,3-dioxepines are of formula (I)



(I)

(in which R_1 is H and R_2 is 3-pentyl, or R_1 is Me and R_2 is isopentyl). (I) are used in the prepn. of perfumery compsns. by adding 4,7-dihydro 2-(3-pentyl) 1,3-dioxepine (A) or 4,7-dihydro 2-isopentyl 2-methyl 1,3-dioxepine (B). (IA) may also be used in aromatising concentrates or for aromatising foodstuffs. Its aroma is reminiscent of celery, parsley or esp. young carrots. It may be used to replace carrotseed oil for culinary purposes.

(I) is much cheaper than carrotseed oil and has a much better aroma. The scent of (I) is of fresh flowers with linalol and oleander character. It may be used esp. to give citrus- and amber-like nuances to perfume compsns. Prepn. is e.g. by condensing 2-butene, 1,4-diol with 2-ethyl 1-butanol in the presence of 0.1-2% acid catalyst in inert solvent. 11.3.74 as 003229 (7pp273)

UNIL D13 67921V/39 =NL-161-201

Margarine fat-phase of specified dilatation - prepd. from mixed and partly alcoholysed liq. and solid fats

UNILEVER NV 28.02.68-DT-692539

*(15.08.79) *CH-552-345 A23d-03 +C11c-03/10*

Fat suitable in the prepn. of margarine, which has a dilatation value at 20°C of 150-550, at 25°C of 100-350, at 30°C of max 150 and at 36°C of max 50 and contains an undirected re-esterified glyceride mixt. obtd. by re-esterification of (a) a liq. oil contg. min. 40% poly-unsatd. fatty acid resid-ues, (b) a hardened fat, and (c) a fat with a lower elevated m.pt. than fat bt. fat is prepd. by incorporating in the margarine fat 40-80% of re-esterified basic fat. This is obtd. by re-esterification of a mixt. of 3-50 wt % of (a), 14-60 wt % (b) with an elevated m.pt. of 40-80°C and 3-50 wt % of (c) with an elevated m.pt. of 25-40°C as well as 20-60 wt % on non-re-esterified components (a) and/or (b) and/or (c). The new fat is suitable in the prepn. of margarines packed in wrappers or small tubs.

Process re-esterifies only 40-80 wt % of the margarine fat which reduces costs and increases prodn. capacity.

Not all fats need be of the cocos-type, but replacement fats such as palm-, hydrogenated peanut-, cottonseet-, sunflower fat, whale- or fish oil may be used. 27.2.69 as 003111 (9pp279)

CHAM/ ★ D13 65802B/36 ★NL 7901-177

Heat sterilising plant for organic waste using hot air - recycles waste gas generated through burner combustion chamber to recover combustion energy

CHAMBE M 17.02.78-FR-005465

C03 Q73 Q76 +Q77 (C04 D15) (21.08.79) A23k-03 C05f-01/02 C05f-03/06 F23g-01 F26b-03/20 F27b-05/14

Organic waste material is sterilised by heat from a warm air stream. The vapour issuing from the waste matter is recirculated through the burner producing the heat so that some of the heat is obtained from the combustion of the waste gases. The process is pref. carried out in an air tight vessel with a horizontal cylindrical floor and a double wall, the outer wall being insulated and the inner wall being heat conducting.

The intermediate space serves as a circulation duct for the warm air and is equipped with a burner connection. an exhaust duct for products of combustion and a means of recirculating vapour back to the burner combustion chamber. The treated material is contained in the inner vessel which is equipped with a mixer mounted on a horizontal axis coaxial with that of the cylindrical floor of the vessel. The plant is equipped with temp. probes and controls to enable the proper control of temp. to be maintained.

The treatment plant is able to convert organic waste to a useful sterile product such as fertiliser or animal feed whilst obtaining some of the energy for the process from the waste itself. 14.2.79 as 001177 (9pp1370)

SAPA D13 09780Y/06 =SU-634-654

Article transfer device to higher plane - by revolving suction cup holders with angular and axial cam control

SAPAL 30.07.75-CH-009954

*Q31 +Q35 (26.11.78) *DT2633-538 B65b-35/38*

Articles such as bars of chocolate, are transferred from the moulds of a prodn. machine to the table of a packaging machine by holders for suction cups which can revolve around a horizontal axis. The suction cup speed is synchronised with that of the prodn. machine.

A first cam control applies to the suction cup holders an angular correction to facilitate the suction action. A second cam control varies the axial distance of the holders with the articles to suit the slots in the packaging machine table.

This is a simple device which can be run at high speeds A horizontal motion during the initial suction facilitates adhesion and an axial motion suits the slotted packaging machine table.

Schenevar A., Torres J., Bul. 43/25.11.78 20.7.76 as 385527 (4pp)

UAGR= ★ D13 65808B/36 ★SU-634-701

Carbon-di:oxide injector for silage fodder in trenches - mounted on tractor suspension unit with carriage for lateral motion and vertical insertion frame

UKR AGRIC MECH ELEC 19.07.76-SU-385612

P11 P14 (30.11.78) A01b-59/04 A01k-05

Device for introducing carbon dioxide into tightly packed feed silage, comprising tubular injectors, connected to a parallelogram mechanism on the suspension system of a tractor.

Operation is improved by fitting a carriage into guides which are mounted on the parallelogram mechanism, with the injectors firmly fastened to the carriage.

At the required location in the silage trench, the tractor is stopped and the injectors are lowered into the working position. At the moment the injectors are pushed into the mass they are only in the vertical position. Any horizontal movement is done using the turn-over frame operating on the rollers on the carriage. This ensures the injectors are inserted vertically. After injecting the CO_2 at the : desired location, the injectors are lifted out and the tractor is moved to another position so that the operation can be repeated.

Danilevich S. Yu., Poedinok V. E., Bul. 44/30.11.78 19.7.76 as 385612 (2pp29)

KOMP= ★ D13 65813B/36 ★SU -634-728

Liquid foodstuffs vacuum dryer feeder - has upper fixed and lower rotary perforated plates providing constant size droplets to vacuum chamber

KOMPLEKS POULTRY 18.07.77-SU-508736

Q76 (30.11.78) A23c-01/06 F26b-03/12

Appts. for conveying liquid foodstuffs e.g. yoghurt into a vacuum drying chamber comprises a housing divided into two parts by a stationary perforated partition and pipes supplying prod. and gas. To produce dried particles of identical size, there is an additional perforated partition adjacent the main partition and rotatable about a vertical axis.

The partitions are located directly below the pipes, and are pref. replaceable for variation in particle size.

Gavrilova E.V., Semenov G.V., Ustinov M.N. et al Bul. 44/30.11.78 18.7.77 as 508736 (2pp1358)

UAGR= ★ D13 65814B/36 ★SU -634-729

Animal feed contg. addn. of Bacillus subtilis biomass - hydrolysing complex carbohydrate(s) and promoting formation of amino acids, vitamin(s) for increased nutrient value

UKR AGRI MICROBIOL 17.12.76-SU-430098

C03 (D16) (27.12.78) A23k-01

The nutrient value of feed for animals is increased by adding to the feed a liquid or lyophilically dried culture of Bacillus subtilis strain 44 in an amt. of 200-400 x 10^9 cells per one feed portion.

The Bacillus subtilis activates the assimilation of the feed by hydrolysing complex carbohydrates to readily digestible cpds. The synthesis of amino acids, vitamins and antibiotics is promoted.

Bacillus subtilis strain 44 was isolated from cattle rumen. It is highly active, in a test, it increased to amino acid content in a potato mash from 6.69% to 12.69%. The Bacillus subtilitis strain 44 hydrolyses starch to glucose and maltose. Its amylolytic activity in a potato-mineral medium is 100 units/100 ml; saccharifying ability is 500-900 mg/g; the liquefaction amts. to 80-100%. The carbohydrate fermentation yields 85-97% of lactic acid, i.e. about the same as the lactic acid bacteria. Bacillus subtilis strain 44 is cultivated in a boiled 20% potato pulp with addition of (in g/l) $(NH_4)_2HOP_4$ 5.0, K_2HPO_4 2.0, $MgSO_4$ 0.1; the pH is adjusted to 7.0-7.2, the temp is 37°C.; the cultivation is carried out for 3 days.

Sivers V.S., Topchii M.P., Kovinko V.P. et al. Bul. 44/30.11.78 17.12.76 as 430098 (3pp70)

NWDA= ★ D13 65815B/36 ★SU -634-730

Perennial bitter lupin processing - includes drying in hot airstream to expel alkaloid(s), for use in fodder mfr.

NW DAIRY MEADOWS 21.03.77-SU-464519

C03 (30.11.78) A23k-01/14

Perenial bitter lupins can be utilised as a fodder by drying it in a stream of air heated to 850-950°C for 3-7 mins., whereby the moisture content drops to 9-11%, whilst all the alkaloids are evaporated.

The perennial bitter lupins require little cultivation and yet give high yields of green mass.

Kamyshkov A.V., Bul. 44/30.11.78 21.3.77 as 464519 (2pp70)

ALMA= ★ D13 65816B/36 ★SU -634-731

Non-alcoholic, tonic sparkling drink - contg. sugar, citric acid, carbon di:oxide, tartrazine, and aq. alcoholic infusions of camomile, yarrow and wormwood

ALMA-ATA NONAL BEER 22.07.77-SU-508990

(30.11.78) A23l-02

Nonalcoholic, tonic drink (name 'Sari-Arka') contg. sugar citric acid, carbonic acid, tartrazine F (dye) and water, is improved by addn. of aq.-alcoholic infusions of camomile, yarrow and wormwood, whereby its organoleptic properties and biological value are enhanced.

The compsn. contains (in g/l) sugar 70.0-90.0, citric acid 1.314-1.514, aq-alcoholic infusion of camomile 3.5-4.5, aq.-alcoholic infusion of wormwood 0.5-1.5, aq.-alcoholic infusion of yarrow 2.5-3.5, tartrazine F 0.008-0.012, CO_2 21-25; the balance is water.

Troitskaya V.A., Orekhova I.V.I. and Krasavina S.P. Bul. 44/30.11.78 22.7.77 as 508990 (2pp70)

AMLA= ★ D13 65818B/36 ★SU -634-733

Fruit juice, e.g. apple juice, manufacture - includes treatment with electrical current in acidified water before pressing whole fruit

AS MOLD APPL PHYSIC 18.07.77-SU-508650

(30.11.78) A23n-01

Apple juice quality and yield are improved by agitating the fruit in an aq. medium while simultaneously exposing to an electrical field of 150-500 V/cm for 1-50 ms with a consumption of 1-5 kW/h per tonne fruit, then sepg. off the water and pressing the fruit.

To prevent growth of putrid microorganisms, the water pref. contains 0.1-0.5% hydrochloric acid and the ratio of fruit to water is 1:2-5.

In the example, whole apples are treated in the electroplasmolyser and are then passed directly to a screw press without comminution.

Lazarenko B.R., Papchenko A.Ya., Vysochanskii D.M. et al. Bul. 44/30.11.78 18.7.77 as 508650 (2pp1358)

MOMD ★ D13 65861B/36 ★SU -634-795

Centrifugal separator for removing whey proteins - contains inserts in rotor deposit chamber which mechanically fragment cross-linked precipitates at start of discharge operation

MOSCOW MEAT DAIRY INST 21.07.77-SU-508979

P41 (30.11.78) B04b-01/08

The discharge of ppte. from centrifugal separator used in dairy industry for removing deposits pref. whey proteins, liable to compacting and cross-linking, is improved by mechanical fragmentation of the deposit in the rotor's deposit chamber at the start of discharge operation.

In the annular chamber between the stack of conical trays and the rotor's discharge slot normally closed by the piston, a number of inserts is mounted. Each of the inserts consists of flat, or conical rings connected by vertical or inclined ribs. The inserts are fixed consecutively to the lid of the rotor and to the piston.

Zhukov V.G., Sokolov V.I., Golovko Yu.D., et al. Bul. 44/30.11.78 21.7.77 as 508979 (4pp135)

MOFA= ★ D13 65990B/36 ★SU -635-088

Ester of higher fatty acid mono:glyceride and citric acid - is prepd. by adding citric acid in dioxan to stream of mono:glyceride at raised temp. and pressure

MOSC FAT RES INST 24.09.76-SU-406953

E17 (D11) (30.11.78) A21d-02/16 C07c-67/02 C07c-69/67

An ester of higher fatty acid monoglyceride and citric acid is proudced by reacting the monoglyceride and citric acid pref. at 115-125°C and at 60 mm Hg. The citric acid is added in dioxane soln. to a stream of monoglyceride whose flow rate is 0.5 hr.$^{-1}$. The prod. is used as an emulsifier in the food industry.

Minaeva S.V., Veviorovskii M.M., Lekhter A.E., Bul. 44/30.11.78 24.9.76 as 406953 (3pp1047)

ALWO= ★ D13 66006B/36 ★SU -635-104

Modified lignin for use in fertiliser and feed additive mfr. - prepd. by treating lignin with oxygen and hot satd. aq. ammonia vapour mixt. in sealed vessel

AS LATV WOOD CHEM 28.12.76-SU-435714

A97 C03 (A11 C04) (30.11.78) A01n-07 C07g-01

N-contg. modified lignin, useful in the mfr. of complex agricultural fertilisers with prolonged activity was animal feed additives, are obtd. by the oxidative ammonolysis of lignin in a closed chamber at elevated temp. with oxygen and ammonia vapours.

The process technology is simplified if the oxidative ammonolysis is carried out with a mixt. of oxygen and satd. aq. ammonia vapours at 150-180°C and 20-25% realtive humidity. The chamber is first partly evacuated to 0.1-0.2 atmos. residual pressure and oxygen is introduced followed by aq. ammonia vapours preheated to above temp.

Aichero N.S., Sergeeva V.N., Mozheiko L.N., et al. Bul. 44/30.11.78 28.12.76 as 435714 (2pp938)

STAK/ ★ D13 66029B/36 ★SU -635-128

Yeast biomass for animal feed prodn. - using aq. waste from wood cellulose mfr. as nutrient after steam treating, neutralising and adding salts

STAKHORSKAYA L K 13.11.75-SU-194101

C03 F09 (D15 D16) (30.11.78) C12c-11/08 ast biomass, used as animal feed supplament is prepd. growing yeast culture in industrial waste water from od cellulose mfr. with addn. of mineral salts. The ste water from paper pulp prod. or microbiological lustrial waste water can be used for yeast culturing.

The method gives microbial biomass in large yield and low ash content. By this method the waste water from per mills is purified and animal feed suppliment is oduced.

The waste water, obtd. during the mfr. of cellulose by eating wood pulp with air and alkaline agent (e.g. alkali, da or ammonia) at 120-200°C and 1540 atmos., is pre- eated with hot steam for 1 hr. and then neutralised with id, e.g. sulphuric acid, to pH 5.5-6.0. It is then treat- with mineral nutrient salts and used for growing yeast omass.

akhurskaya L.K., Giterman V.F., Bul. 44/30.11.78
.1.75 as 194101 (2pp938)

GR= ★ D13 66144B/36 ★SU-635-948

ilk pasteurising appts. - has semiconductor film electrical heating ements having negative temp. coefft. of resistance to prevent cal overheating

BELO AGRIC MECHN 09.03.77-SU-461696

(15.12.78) A23c-03/02

ppts. with improved treatment uniformity and simplified esign comprises a housing with semiconductor film electrical heating elements applied to the heat-exchange sur- aces of a housing with milk inlet and outlet connections, nd contact electrodes transversely of the milk flow.

The elements are of material with a negative temp. oefft. of resistance at an absolute value of not less than .4%°C.

The arrangement excludes local overheating and ensures uniform treatment. Efficiency is raised 1.2-1.5-fold.

Gerasimovich L.S., Shkarev E.S., Baikova E.A. et al.
Bul. 45/5.12.78 9.3.77 as 461696 (2pp1358)

CONF= ★ D13 66145B/36 ★SU-635-950

Caramel based confection prodn. - includes injection of viscous filling into sugary sheath at elevated temp. with application of mechanical vibrations

CONFECTIONERY IND 01.04.77-SU-470013

(15.12.78) A23g-03/06

Prodn. of bon-bons by continuously introducing a highly viscous filling into a sugary sheathing is facilitated and the quality of the prod. is improved by subjecting the filling, before the introduction into the sheathing, to mechanical vibrations having a frequency of 15-50 Hz and an amplitude of 1.5-3.5 mm for 5-10 mins.

Urakov O.A., Marshalkin G.A., Kuznetsova L.G. et al.
Bul. 45/5.12.78 1.4.77 as 470013 (2pp70)

LIFO= ★ D13 66146B/36 ★SU-635-951

Canned dietetic food mfr. - includes addn. of oil contg. beta-sitosterol before heating, useful in lipid metabolism disorders

LITH FOOD IND DES 12.01.77-SU-444003

(15.12.78) A23c-01 A23l-03

Dietetic food prods., esp. preserves are prepd. by mix-
ing the starting components, introducing β-sitosterol
dissolved in a vegetable oil, and subjecting the mixt. to a
thermal treatment.

The quality of the prod., esp. its taste, is improved
by introducing β-sitosterol near the end of the mixing op-
eration, in an amt. of 1.3-1.5 wt.% (w.r.t. the final
prod.

These prods. are esp. suitable for persons suffering from distortion of the lipid metabolism.

Benyushite S.T., Renestkene Ya.A., and Vaitsenavichene
M.I., Bul. 45/5.12.78 12.1.77 as 444003 (2pp70)

CHER/ ★ D13 66147B/36 ★SU-635-952

Dried powdered animal feed concentrate mfr. - by hot extruding starch based material, impregnating with melted fat, drying and fragmenting

CHERNYAEV N P 03.11.76-SU-417531

C03 (15.12.78) A23k-01

Particulate dry fat concentrate used for animal feeding is prepd. by extruding a starch-contg. substance enriched with a fat designated for animal consumption, comminuting the prod. and cooling.

This method is improved by first extruding a substance contg. starch, but no fat, under a press. of 70-100 kg/cm² at 135-150°C; then comminuting the prod. to 10-15 mm particles; enriching with a liquid fat at 50-60°C in a ratio dry prod.: fat equal to 1:1 to 1:2.3 (the contact time is 12-15 min); and cooling at an ambient temp. down to -2°C. By this method, the imbilition is greatly enhanced so that the fat content in the final prod. increases to 70%. The process is simplified compared with the known method.

Chernyaev N.P., Maznik A.P., Sukhoi F.P. et al. Bul.
45/5.12.78 3.11.76 as 417531 (2pp70)

POTA= ★ D13 66149B/36 ★SU-635-954

Mechanical peeling of potatoes and other vegetables - preceded by cutting into pieces and drying to effect thinner peeling and to save most of surface layer of tuber

POTATO FOOD PROD 29.04.76-SU-359277

(15.12.78) A23n-07/02

Mechanical peeling of potatoes and other vegetables is facilitated by cutting the potatoes into pieces (pref. cubes) drying the pieces; applying mechanical abrading (pref. for 0.5-5 mins) and sepg. the peel by screening or blowing.

By this method, the quality of the prod. is improved because the most valuable surface layer of the tuber is largely saved, as the peeling is much thinner than by the conventional method.

Zaletskii V.N., Zabashtonskii I.P., and Zaletskaya B.G.
Bul. 45/5.12.78 29.4.76 as 359277 (2pp70)

KURB/ ★ D13 66150B/36 ★SU-635-955

Onion skinning apparatus - rotates onions using compressed air jets in annular knife chambers on turntable

KURBATOV A S 14.09.76-SU-405761

(15.12.78) A23n-15/08

The appts. comprises a loader and distributor, a turntable with working chambers, and a manifold with nozzles supplying compressed air to the chambers. To improve prod. quality and increase throughput, each chamber consists of a compressed air pot with annular knives, and a base is mounted for vertical reciprocation to lift an onion into the chamber.

The chamber nozzles are pref. displaced relative to its dia. A star wheel transfers onions from a conveyor singly to successive lift bases on the turntable and each onion is then lifted until the base enters the lower end of a chamber. This motion opens the air supply valve such that air entering through the nozzles rotates the onion so that its skin is cut and removed. On further turntable rotation a cam lowers the base and the onion is discharged onto a second conveyor.

Kurbatov A.S., Vatolin K.A., Vatolin A.K., Bul. 45/
5.12.78 14.9.76 as 405761 (4pp1358)

RANB/ ★ D13 66162B/36 ★SW 7712-156

Milk substitute with reduced immunogenic protein content for babies - has proteins partially broken down to give polypeptide(s) of lower molecular weight

RANBY M G 27.10.77-SW-012156

C03 (05.06.79) A23c-09/10

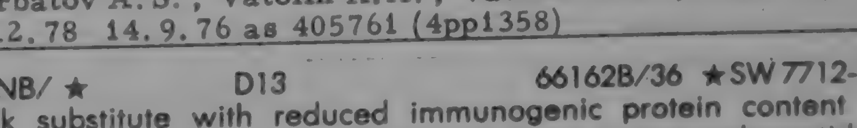
TOYJ D13 57088A/32 =US 4165-311

Di:peptide amino acid addition cpds. - can be decomposed to highly pure di:peptide ester s) which are sweeteners (BE 24.7.78)

TOYO SODA KK (SAGA.) 19.05.77-JA-057036 (27.01.77-JA-007279)

*B05 E16 (E14) (21.08.79) *DT2801-238 C07c-103/52 +C12b-01*

Addn. cpds. of formula (I) are new:



$$R_3COCH(R_2)-NH_2-HOOC-(CH_2)n-CH(NHR_1)-CONH-CH(R_2)-COR_3 \qquad (I)$$

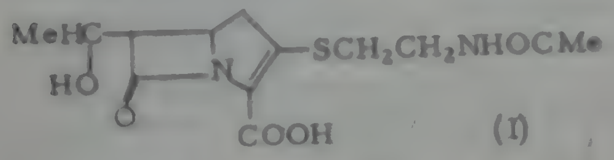
In (I) R_1 is aliphatic oxycarbonyl, benzyloxy-carbonyl opt. substd. benzoyl, aromatic sulphonyl or aromatic sulphinyl; R_2 is CH_3, isopropyl, isobutyl, isoamyl or benzyl; R_3 is lower alkoxy, benzyloxy or benzhydryloxy and n is 1-2.

(I) are useful as intermediates in peptide synthesis; some are used for measuring the enzymatic activity of a carboxypeptidase; and some are useful as sweetening agents.

17.1.78 as 870108 (17pp997)

MERI ★ D13 66295B/36 ★US 4165-379
N-Acetyl-thienamycin - useful as a broad-spectrum antibacterial
MERCK & CO INC 25.08.77-US-827503 (21.11.75-US-634301)
B02 C02 E13 (D22) (21.08.79) A61k-31/40 C07d-487/04

N-Acetylthienamycin of formula (I) and its salts are new:



(I)

It is characterised by the 100 MHz n. m. r. spectrum having the peaks δ 1. 27, d, 3H, J≈6. 5; δ1. 98, s, 3H; δ 2. 94, m, 2H; δ 3. 17, m, 2H; δ 3. 38, t, 2H, J≈6. 5, δ 3. 38, m, 1H; δ 420, m, 2H.

(I) is a broad-spectrum antibacterial useful as a therapeutic agent, additive for animal feeding stuffs, foodstuffs, preservative, disinfectant and industrial bactericide esp. for use in water-based paints and in the white water of paper mills. Dose is 2-600 mg/kg daily. 25. 8. 77 as 827503 (17pp1248)

BRPE D13 65584A/37 =US 4165-389
Protein-rich animal feed prodn. - by fermentation of dairy by/products e.g. whey with Kluyveromyces yeast strains in the presence of added nicotinic acid (NL 29.8.78)
BRITISH PETROLEUM LTD 25.02.77-GB-008070
*C03 (21.08.79) *DT2807-665 A23c-23*

Fermentative prodn. of protein rich animal feedstuff from a liq. dairy by-prod. contg. a lactose (I) and lactic acid (II) is claimed. Process comprises cultivating a (I) and (II) utilising strain of genus Kluyveromyces in presence of gas contg. O_2 in broth comprising a nitrogen source, the dairy-byproduct and added nicotinic acid. Amt. of latter is such that ⩾10 mg are present per gm. (I) and ⩾5 mg per gm. (II), the nicotinic acid permitting effective utilisation of (I) and (II) by the yeast.

Waste from e. g. cheese mfr. can now be effectively utilised. Because of low N-content and high ash to N ratio, and also because of high lactic acid content, the ultra-filtrates of the waste are not suitable as such. Processing involved here renders them consumable. 22. 2. 78 as 880138 (4pp963)

GENO D13 01971B/02 =US 4165-390
Solubilising erythrosine food dye under acid conditions - by dispersing and fixing on stabilising support esp. gelatin
GENERAL FOODS CORP 29.08.77-US-828570
*E24 (21.08.79) *BE-870-060 A23l-01/27*

Solubilisation of FD&C Red # 3 under acidic conditions comprises (1) dispersing the Red #3 in solvent of pH 4. 5 so that most of it is dissolved; (2) fixing the Red #3 with a substrate; (3) solubilising the fixed Red #3 into an aq. soln. in presence of an amt. of gelatin to stabilise the Red # 3 when in an aq. soln. of pH < 4. 5 and provide a cloud free and ppte-free aq. soln. and adjusting to < 4. 5. The fixing of the dye may be accomplished by plating Red #3 dispersion onto substrate and drying or by dissolving substrate into soln. with dye following by drying the soln. Prod. may be used on dessert gels, puddings, sauces, toppings, beverages, etc. 29. 8. 77 as 828570 (5pp963)

KURS D13 36844A/21 =US 4165-392
Protein-contg. fibrous foodstuff prepn. - from milk protein-derived fibrous compsn., pre stabilised in acid bath and end-stabilised i salt bath (NL 17.5.78)
KURARAY KK (MNKN) 12.11.76-JA-136713
*(21.08.79) *DT2701-657 A23j-03*

A fibrous high protein prod. is prepd. by converting a sol comprising a milk protein into a fibrous prod., and presta ilising the resultant prod. in an acid bath of pH 0-5 contg. 0. 5-25% of acetic acid, sulphuric acid, phytic acid or thei admixtures for ⩾ 10 secs. either after or during the conversion step.

The resultant fibrous prod. is then actually stabilised in a saline bath of pH 2. 5-6. 5 contg. ⩾ 1 salt at 90-130 °C, for 1-3 hrs. of acetic or sulphuric acid is used in the second step, or 0. 5-3 hrs. of phytic acid is used. The salts of the third step are a potassium salt, a sodium salt and/or a calcium salt in concn. 0. 3-6 gm. equiv. /1 as the total cation concn. of the bath.

The process is used to produce a meat-simulating, fibrous high-protein food from a starting milk material such as a milk, a skim milk or casein. 17. 1. 77 as 760293 (13pp931)

STAU D13 88217Y/50 =US 4165-391
Meat flavouring compsns. - contg. a yeast autolysate and a modified soluble solid whey material
STAUFFER CHEMICAL CO 29.04.77-US-791342 (08.06.76-US-694116)
*(21.08.79) *BE-855-442 A23l-01/22*

A food flavouring agent is prepd. comprising 40-85 wt. % hydrolysed vegetable protein, 10-25 wt. % yeast autolysate and 5-25 wt. % (on a dry solids basis) of soluble modified delactose whey solids.

The second fraction is obtd. by passing a liq. mixt. of cheese whey solids through a bed of molecular sieve resin, and the permeate and the delactosed permeate resulting from the ultrafiltration of whey. Pref. the food flavouring agent is in the form of a paste or a powder. The yeast autolysate is the autohydrolysis prod. of a prim. yeast Saccharomyces cerevisiae. The delactosed whey solids are clarified, and the liq. mixt. of cheese whey solids are clarified delactosed wheese whey.

The food flavouring agent is esp. used for providing a meaty flavour and flavour intensity to foods such as soups, gravies, snack goods and seasoning mixes. 29. 4. 77 as 791342 (7pp931)

See. Also

D16 DS 2700698	D16 EP---3923	D16 DT 2906737
D16 J7 9022519	D16 SU 635127	D16 US 4165250

D14: FOODSTUFF MACHINERY

VLEN- ★ D14 64790B/36 ★DT 2807-107
Cattle fodder mixing and discharging appts. - has carriage-mounted mixing container with discharge opening above conveyor for feeding fodder into mangers or troughs
FA B VAN LENGERICH 20.02.78-DT-807107
P14 +P12 Q35 (30.08.79) A01d-90/10 A01k-05 A23n-17 B65g-33/28

Appts. includes a carriage formed by a tubular structure carried by a pair of coaxial main wheels and a supporting auxiliary wheel. The tubular structure carries a base plate on which is mounted an inverted frusto-conical container whose base can be either circular or polygonal. The base plate is provided with a discharge opening which is closed by a slidable damper plate.

Interior of the container is provided with a mixing screw provided at axially spaced locations with peripherally disposed, radial mixing arms. Below the opening is disposed an endless belt conveyor arranged parallel to the axis of main wheels and provided with salts which promote feeding of the fodder mixt. into mangers or troughs.

Used for mixing green fodder with grain and depositing the mixt. in feeding troughts. Mixing of silo fodder with additives is carried out in a single step and discharging into mangers or troughs is effected in a simple manner. 20. 2. 78 as 807107 (13pp536)

VLEN- D14 64790B/36 =EP ---3-813
Cattle fodder mixing and discharging appts. - has carriage mounted mixing container with discharge opening above conveyor for feeding fodder into mangers or troughs
FA B VAN LENGERICH 20.02.78-DT-807107
*P14 +P12 Q35 (05.09.79) *DT2807-107 A01k-05/02 A23n-17 +A01d-90/10 B65g-33/28*
D/S: E(BE, FR, GB, IT, NL).

Appts. for preparation of fodder comprises a mixing container (16) mounted on a carriage.

Used for mixing green fodder with grain and depositing the mixt. in feeding troughs. Mixing of silo fodder with additives is carried out in a single step. Discharging into mangers or troughs is effected in a simple manner.
17.2.79 as 100466 (15pp536).
(G) ISR: US4026529; US3185449; FR2127598; FR2219750; DT1607237; US3285581; US2864593; DT1607776; GB1150662; DS-459744; FR2237563.

MOUX ★ D14 65095B/36 ★GB 2014-865
Double whisk electric domestic beater support - comprises rotary base and column head with drive gears and toothed hub engaging bowl teeth
MOULINEX SA 28.02.78-FR-005657
(05.09.79) B01f-09/16

A support for beater with two axially parallel rotary whisks comprises a base on which a circular section bowl can rotate and a column extending from the base and with a free end head to receive the beater. The head is pivotable between positions with whicks in and out of the bowl.

The head holds a driven gear engageable with one whisk and engaged by a driving gear having a toothed hub projecting from the head to engage teeth on the bowl exterior. The driven gear engages the whisk closest to the bowl wall. The head undersurface pref. has a boss to guide the bowl internal surface. 19.2.79 as 005820 (6pp1358)

UNIL ★ D14 65101B/36 ★GB 2014-899
Roller impeller extrusion press - in which slip between the roller and die is monitored to indicate blockage
UNILEVER LTD 18.01.79-GB-001867 (18.10.77-GB-043309)
(05.09.79) B29b-05/04

In an extruder in which material is fed into the nip between a press roll and a die having extrusion orifices, through which the material is forced, either the roll or die is positively driven causing the other of the roll or die to rotate, and slip between the roll and die is detected. When the slip, or the rate of change of slip, attains a predetermined value the feed of material to the nip is varied.

Used partic. in the extrusion of animal feed pellets. Presses can easily block, choke, or flood, necessitating plant shut down to remove material from the nip, or even removal of the die to clear the orifices. By monitoring slip, conditions leading to blockage of the die can easily be detected and remedied. 18.1.79 as 001867 (7pp50)

SULZ D14 18932X/11 =NL-161-287
Irradiation device for canned goods, etc. - having two-storey revolving valve for locking containers in or out of the chamber
SULZER BROS LTD 02.09.74-CH-011877
*K08 +Q35 (15.08.79) *DS2442-916 G21h-05*

In an installation for the irradiation of materials transported in containers, the containers are guided through the two levels around a radiation source. The guiding mechanism includes a rotary slide by which the containers are moved into and out of the radiation chamber. There is also a lifting mechanism for transferring the containers from one level to the other. The heavy rotary slide in other installations requiring a great driving and braking force, is eliminated. In the irradiation chamber each level has its own transporter. The lifting arrangement in the chamber bridges over the difference in height from the one level to the other.

The rotary slide has two chambers one above the other which corresponds to the two levels, the one chamber delivering and the other withdrawing. In spite of the compact design, the plant has a great transporting capacity and hence can work with a larger radiation capacity. 18.9.74 as 012361 (15pp1014)

VEND= ★ D14 65807B/36 ★SU -634-496
Microwave heat treatment plant for milk and meat produce - has generator with matching waveguide with elliptical clearances for magnets and hollow spheres
VENDING EQUIP RES 24.05.77-SU-494903
R59 (26.11.78) H05b-09/06

The previous microwave heat-treatment plant for food and dairy prods. contains a generator, heating chamber and conveyer. For more effective use of microwave energy, a matching waveguide is introduced with elliptical clearances for magnets and hollow ferromagnetic spheres. Losse are eliminated over practically the whole range of impedances and so foodstuffs with any dielectric characteristics can be treated. Milk, meat and other similar produce can be heated.
Bezlyudova M.M., Korotkov V.K., Kopylov Yu. et al.
Bul. 43/25.11.78 24.5.77 as 494903 (3pp840)

ODFO= ★ D14 65817B/36 ★SU -634-732
Self-controlling plasmolyser for use in food industry - has inductive coils opposingly wound on common cores between electrode and supply
ODESS FOOD EQPT DES 29.12.76-SU-436548
(30.11.78) A23n-01

The previous plasmolyser contains an electric supply connected to one of two concentric electrodes. For more effective electric treatment of raw material and to reduce load current variation, inductive coils are opposingly wound on common cores in pairs of arms. The load current is controlled over the whole length of the working gap to reduce the variation. The proposed plasmolyser is useful in the foodstuffs industry for treating vegetal and animal material by electric current.

In the gap, current is passed through the ground material, at the voltage of the two electrodes. Since the coils are wound opposingly, their magnetic fluxes are mutually compensated and so the inductive reactances in the arms have practically no effect on the value of the load current. An increase in current in any part leads to a coil self-induction e.m.f. for self-regulation.
Gatin A.I., Bul. 44/30.11.78 29.12.76 as 436545 (2pp 840)

UHOR= ★ D14 65819B/36 ★SU -634-734
Fruit storage tank for container emptying appts. - has auxiliary conveyor forming multilayer fruit zone ahead of discharge conveyor in water tank
UKR HORTICULT RES 18.07.77-SU-512307
(30.11.78) A23n-15

The storage tank comprises a water-filled tank, a pump for circulating the water in the tank, and a metering discharge conveyor. To make the storage tank more compact, an auxiliary conveyor is mounted in the tank for submerging the fruit, and over its upper run is a perforated baffle.
Demidko M.E., Fryshev S.G., Babenko A.E et al.
Bul. 44/30.11.78 18.7.77 as 512307 (2pp1358)

IVAN/ ★ D14 65852B/36 ★SU -634-78
Food cutter and grinder - has stationary truncated wedge-shape knives on internal body surface and rhomboid-shaped movabl knives on rotating shaft
IVANCHENKO I S 01.06.77-SU-493976
P41 (30.11.78) B02c-18/06

The grinding device has a cutting action as it grinds, comprising a body with knives fastened firmly to the internal surfaces, and through which a shaft passes to which a collection of rotating knives are fastened.

The grinding quality is increased by making the movable knives of rhomboidal shape and the stationary knives as truncated wedges. The latter are mounted in pairs along a helical line so as to form cutting ridges together with the movable knives.
Ivanchenko I.S., Shulgin N.G., Mironov A.S., Bul. 44 / 30.11.78 1.6.77 as 493976 (2pp29)

ODFO= ★ D14 65854B/36 ★SU -634-787
Mincer for extn. of medicinal cpds. e.g. from animal source materials - has screw and cutters made from dielectric and conductive materials for electro-plasmolysis
ODESS FOOD MACH DES 15.07.77-SU-507750
P41 (30.11.78) B02c-18/30

Device for mincing material, of animal and vegetable origin consists of a body, inside which is a screw, knife blade and cutter grating.

The process is simplified by combining the grinding with electroplasmolysis of the raw material, by providing it with a source of power and a removable adapter made in the form of a dielectric and electrically-conductive grating duplicating the shape of the cutter grating and positioned coaxial to it. The cutter and the electrically-conductive gratings are connected to different phases of the power supply. The conditions in which the material passes through the attachment are improved by making the holes to widen out in the direction in which the material is moving out from the body.
Vainshtok Yu.G., Gatin A.I., Kazandzhii M.Yu., Bul 44/30.11.78 15.7.77 as 507750 (2pp29)

RBTO- ★ D14 66199B/36 ★US 4165-061
Liquid confection freezing mould - with top edge ring detachable for insertion between upstanding rods to partly enter mould and form handle
RB TOY DEV CO 14.03.77-US-777325 (29.10.75-US-626654)
A92 P53 (21.08.79) A23a-09 B22d-05

A mould comprises a flexible cylindrical container with spaced rods on the side extending beyond the top edge and with the extensions inclined towards each other. The rods are spaced by $<$ 120°C and a flexible resilient circular ring is detachably connected to the top edge outside the rods at no more than three points.

The ring can be detached then placed in waisted figure eight form between the rods to lie partly within the container so that it forms a handle for the frozen prod. when ejected from the mould. The mould is e.g. of polyethylene. 14.3.77 as 777325 (5pp1358)

D15: WATER TREATMENT

DEGM ★ D15 64705B/36 ★BE -874-542
Continuous treatment of spent ion exchange resins - by treating resin in a column and periodically removing top fraction and introducing new fraction at the bottom
DEGREMONT SA 02.03.78-FR-005941
J01 (03.09.79) B01j

The top fraction is removed by a strong current of water and then the remaining resin in the column is displaced upwards through an equiv. distance by a short surge of liq e.g. at least $10m^3/m^2/h$. for about 60s. The new fraction pref. 12-15% of total vol. of resin, is then driven in under pressure.

The top fraction passes from the regeneration column into a washing column and thence back to the fixation column where the ion exchange process occurs. The spent resin is drawn from the bottom of the fixation column. Where several treatment liqs. are required, a number of regeneration columns. in series of parallel as appropriate are used, the displacement of the top fraction taking place in the same manner.

Any types of ion exchange resins can be treated with the appts. and method described, examples mentioned including demineralisation of boiler feed water and treatment of rinsing water used in electroplating. Moving the resin through the appts. in batches using short surges of liq. avoids fluidising the resin, which would lead to a reduction in regeneration efficiency. 1.3.79 as 874542 (11pp)

CALG ★ D15 64764B/36 ★CA 1061-022
Conditioning aq. waste sludges for dewatering - by mixing with a methacrylamido-propyl-tri:methyl ammonium chloride polymer
CALGON CORP 30.10.74-US-519393
A97 (A14) (21.08.79) C02c-03

An aq. waste sludge is dewatered after conditioning with a methacrylamido-propyl-trimethyl-ammonium chloride polymer or its copolymer with acrylamide (in an amt. of pref. 10-75%). The amt. of polymer added to the sludge may be 300-3,000 ppm. The polymer can be used in conjunction with an inorganic coagulant such as ferric chloride or sulphate or alum. The polymer should have a mol. wt. $>$100,000, pref. $\geqslant$ 1,000,000, and a water solubility $>$0.25%.

Mechanical dewatering, e.g. by gravity or vacuum filtration, centrifugation, flotation or sedimentation, is greatly enhanced by the conditioning step. Sludges from municipal and industrial wastes can be treated; and the water content is reduced from 93-99 to $<$90%. 20.10.75 as 237989 (8pp558)

LIOY D15 32770T/21 =DS 2154-105
Effluent water treatment - to remove anionic surfactants esp detergents, by foaming after adding polyvalent metal cpds
LION FAT & OIL KK 30.10.70-JA-095671
*E37 (30.08.79) *DT2154-105 C02c-05/02*

Anionic surface active cpds. are removed from waste water. A cpd. of a multivalent metal, e.g. $MgCl_2$ is added to the waste water in an amt. of 0.5-10 mole equivs. per mole of surfactant and the mixt. foamed by passing through air. The resulting foam contg. surfactant is separated and broken up by centrifuging to obtain a cake contg. a small amt. of water.

The one-stage process is energy-saving and needs simple appts. Waste water from factories making or using detergents may be treated. 29.10.71 as 154105 (3pp068)

SCHR/ D15 53772V/30 =DS 2356-801
Cleaner for water straining grid - to prevent blockage of water channels esp. canal sluices
SCHRAGE F 14.11.73-DT-356801
*J01 +Q42 (30.08.79) *BE-811-612 C02c-01/22 E02b-05/08 +E03f-05/14*

A filter grid for water canals and effluent channels is equipped with a mechanised cleaning rake which slides in between the bars at the bottom of the grid and then moves upwards carrying with it the rubbish which is then deposited in a collector at the top of the travel. The rake is attached to bars pivoted about a horizontal shaft attached to a carriage. The carriage is restrained to move vertically by vertical channels and carries its own drive motor. At the outer end of the drive shaft there is a pinion gear which engages in a vertical rack and is thus responsible for the descending and rising movement of the rake.

The hinged arms of the rake are equipped with guide cams which engage in channels at each side of the grid. At the top of the rise, there is a fork which causes the guide followers to move into an outer channel on the descent so that the rake is retracted from the grid. At the bottom of the guide channels the followers and consequently the rake are forced into an inner rising channel.

This arragement ensures a reliable and accurate movement of the rake without the necessity of the drive being immersed in the water and with min. of wear. 14.11.73 as 356801 (4pp1370)

AI D15 56041W/34 =DS 2505-794
ter purification using activated carbon - which is continuously
ycled by being removed from the top of a column and replaced
low
EBARA INFILCO KK (EBAR) 13.02.74-JA-017269
*(30.08.79) *DT2505-794 C02b-01/14*

O or waste H_2O is purified using a filler layer (I) com-
ising active carbon (II). The H_2O to be treated is added
the upper side of (I) and passes through it in a downward
ream. At particular time intervals, a paste of (II),
roduced by mixing (II) and H_2O, is added to the lower
de of (I), the upper section of (I) is made into a paste
d the paste of (II), in the upper section of (I), is with-
rawn in an amt. corresp. to the amt. of the paste of (II)
dded to the lower section of (I) (II) which forms (I) is
oved, as column-absorbing container, in (I).

On raising the resistance in the upper section (III) of
e layer of (II), an after-rinsing is effected by compress-
g backwash H_2O upwardly, during interrupted waste H_2O
let and clear H_2O discharge, into (III) enriched with
pds. absorbed from the H_2O, and discharged into the
pper part of the container at sufficient distance above the
vel of the after-rinsed layer of (II). 12. 2. 75 as 505794
7pp481)

EXC D15 28583X/16 =DS 2536-227
ecompsn of metal cyanide complexes and phenols - in waste
vater arising in the refining of oils contg nitrogen cpds
TEXACO INC 30.09.74-US-510198
*E37 H04 Q73 (30.08.79) *DT2536-227 C02c-05*

Metal cyanide complexes, in industrial waste waters (I)
esp. in waste waters from the petroleum industry)
are decomposed by heating, opt. in the presence of phen
ol cpds. and/or H_2S.

(I) are sprayed into a waste gas pipe of a hydrocarbon-
air combustion at ≮399° C, over a period of ≮10 seconds.
Pref. (I) contg.≯ 3 wt. % H_2S, is firstly completely freed
from S in a stripping zone. 14. 8. 75 as 536227 (3pp481)

KORN- D15 88011A/49 =DS 2723-779
Preventing corrosion and scale deposition in water-conduits - by
adding water-soluble phenol condensates modified by oxidisable
sulphite or hydrazine gps.
FA KORN E 26.05.77-DT-723779
*A21 M14 (A97) (30.08.79) *DT2723-779 C02b-05/06 C23f-11/16*

Water soluble condensates are made from phenol and alde-
hydes in mol. ratios of <1, pref. 1:0. 75 or less, and
contain in their recurring units ≥1 oxidisable sulphite gp.
and ≥1 phenyl residue. This residue is substd. pref. in
the o-position, by ≥2 OH or by ≥1 OH and a sulphone or
COOH.

A non-regeneratable additive to prevent O_2 corrosion
and scale deposition in water conduits. An exact dosing
of the additive is made possible, analysis and control of
the water is not affected. The additive is economical,
effective and has no detrimental effect. 26. 5. 77 as
723779 (4pp260)

HITA D15 30564A/17 =DS 2746-752
Anaerobic decomposition of biochemical waste - after basifying to
alkaline pH and decomposition by heating, esp. to accelerate fat
and protein degradation
HITACHI KK 18.10.76-JA-123833
*(30.08.79) *DT2746-752 C05f-09*

Biochemical waste e. g. town or household waste, as
an aq. soln is treated with alkali to adjust the pH to ≥8,
heated to 30-160° C and then treated with anaerobic bacter-
ia, pref. first with anaerobic liquefying bacteria and then
with gas-forming bacteria. 18. 10. 77 as 746752 (7pp068)

JUDO- ★ D15 64810B/36 ★DT 2807-635
Domestic water softening plant controller - has water supply line
fitted with throttling device in front of water rate meter providing
signals of consumption
JUDO WASSERAUFBEREI 22.02.78-DT-807635
R26 (30.08.79) C02b-01/22 G05d-11

Device for controlling domestic water softening plants us-
ing a water rate meter which is associated with a gear dri-
ve train to deliver signals used in turn to release the ionic
exchange process, is provided with a device which is arr-
anged in the water supply line in front of the impeller of
the meter to vary the water flow rate.

Variable speed gearing or electric or electronic count-
ers are dispensed with to induce ionic exchange in the
water softener after a predetermined water consumption.
22.2.78 as 807635 (14pp536)

VOIJ ★ D15 64818B/36 ★DT 2807-733
Measuring the BOD of sewage - by analysing gas flow through
electrolytic oxygen generator recycled into sludge
VOITH J M GMBH 23.02.78-DT-807733
R16 (30.08.79) C12k-01 G01n-33/18

The activity of a mass of activated sludge into which a
stream of sewage flows is measured, in a process in which
the oxygen consumed is supplied pref. electrolytically;
the amount delivered being measured and recorded. In a
closed system, when the concn. of oxygen falls below a
certain level, the delivery of oxygen is commenced, and
the oxygen delivered is fed into a stream of air passing
through the activated sludge. The oxygen concn. of the
activated sludge is determined by means of the oxygen
concn. in the stream of air passing through; the amt. of
oxygen delivered being the same for each unit of time.

Process provides rapid, accurate and continuously
carried out measurement of the oxygen requirement, and
can be used for the control of a sewage purification plant.
The measuring process has the advantage that the intrin-
sic activity of the sludge is excluded. 23.2.78 as 807733
(12pp1045)

MESR ★ D15 64828B/36 ★DT 2807-903
Introduction of gases into liquids - esp. aeration of liquids using
rotating hollow shaft with flights mounted at a distance from it
having a series of holes facing inwards
MESSERSCHMITT-BOLKOW-BLO 24.02.78-DT-807903
J02 (30.08.79) B01f-03/04

Gases are introduced into liquids and spatially distributed in them using a rotating flighted distributor. This has a series of streamlined elements mounted parallel to its axis. These elements are hollow. The elements are supported on stays projecting from the shaft. They have a series of holes on their surfaces away from the shaft axis. These serve as gas outlets.

System ensures that the gas bubbles are small at the point of entry into the liquid. The distribution occurs over the whole space to be aerated without further agitation. 24.2.78 as 807903 (10pp1053)

BATT ★ D15 64857B/36 ★DT 2808-222
Composite membrane prodn. for hyperfiltration - from soluble
polymer carrier film with sepg. film coating and porous supporting
membrane, giving high capacity
BATTELLE-INSTITUT E 25.02.78-DT-808222
A88 J01 (A11 A14) (30.08.79) B01d-13/04 B29d-07 C08j-05/22

Prodn. of composite membranes, consisting of a porous
supporting membrane (I) and a thin sepg. membrane (II),
is effected by producing (II) on one side of a carrier film
(III), which consists of a soluble polymer, and bringing
the (II)-coated side into contact with (I), so that (II) is
between (I) and (III).

Membranes of this type are useful in hyperfiltration,
i.e. reverse osmosis, for the desalination of sea and
brackish water, waste liquor purificn. and the recovery
of valuable substances from waste liquors. Thin comp-
osite membranes of high capacity can be produced from
all polymer casting solns. capable of forming sepg. films.
25.2.78 as 808222 (14pp016)

LOCH- ★ D15 64968B/36 ★EP ---3-787
Sewage plant aerating device - has aerating container provided
with recirculation pipes supplied with oxygen at bottom
LOCHER & CIE AG 16.02.78-CH-001717
(05.09.79) B01f-05/04 C02c-01/06

Full Patentees: Locher AG; Cellulose Attisholz AG.
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Sewage plant aerating device has a sewage container pro-
vided with at least one pipe which in association with a
pump leads to recirculation of the sewage from top to
bottom. The device has inlets (13,14) for a fine blast of
gas (16,17) in an upper part (12) of the pipe (8). Flow rate
(V) of the sewage in pipe (8) immediately below the upper

part (12) is greater than the upwardly directed speed (V_A) of the bubbles of gas stream (9) at the same location (20).

Energy consumption for oxygen supply is reduced and efficiency of supply is markedly increased.
12.2.79 as 100396 (17pp536)
(G) ISR: GB1484657; DT2649756; GB-442510; FR2225198; FR2249703; FR2357484; AU-337626.

BATT D15 64857B/36 =EP ---3-829
Composite membrane prodn. for hyperfiltration - from soluble polymer carrier film with sepg. film coating and porous supporting membrane, giving high capacity
BATTELLE-INSTITUT EV 25.02.78-DT-808222
*A38 J01 (A11 A14) (05.09.79) *DT2808-222 C08j-05/22 +B01d-13/04 B29d-07*
D/S: E(BE, CH, FR, GB, IT, NL, SW).

Prodn. of composite membranes, consisting of a porous supporting membrane (I) and a thin sepg. membrane (II), is effected by producing (II) on one side of a carrier film (III), which consists of a soluble polymer, and bringing the (II)-coated side into contact with (I), so that (II) is between (I) and (III).

Membranes of this type are useful in hyperfiltration, i.e. reverse osmosis, for the desalination of sea and brackish water, waste liquor purificn. and the recovery of valuable substances from waste liquors. Thin composite membranes of high capacity can be produced from all polymer casting solns. capable of forming sepg. films.
21.2.79 as 100505 (14pp016)
(G) ISR: US3969452; FR2202123; GB1256491; FR2324338; FR2322637; 1 Journal Reference.

ALKU ★ D15 64997B/36 ★EP ---3-862
Heavy metal removal from aq. effluent discharge - by adding an aq. base at elevated temp. and filtering
AKZO NV 25.02.78-NL-002123
E31 J01 M14 (E32) (05.09.79) C02c-05/02
D/S: E(BE, CH, DT, FR, GB, IT, LU, SW).

An aq. liq. contg. heavy metal ions and an aq. liq. contg. a base are simultaneously added to a stirred bulk of water at pH 5-10 and 60-100°C. The pH is maintained at 5-10 by adjusting the addition rates, while the temp. is kept at 60-100°C, to ppte. the heavy metal ions as the hydroxide or basic salt.

Cr, Zn and Pb can be removed effectively from e.g. galvanising effluent discharge. The ppte. settles readily and is easily filtered off. The filter cake has a dry matter content $>$ 50%. The residual solubilities are $\leqslant$ 2 ppm for Cr and $\leqslant$ 3 ppm for Zn and Pb.
19.2.79 as 200083 (15pp558).

(E) ISR: GB-678462; DT2640096; US2725314; DS-599986; 1 Journal Reference.

THET- ★ D15 65005B/36 ★EP ---3-879
Water purifying appts. - including an ultraviolet source cooled by a fast moving airstream
THETFORD CORP 21.02.78-US-879204
P34 (D22) (05.09.79) A61l-03 C02b-01/38 C02b-03/02
D/S: E(BE, DT, FR, GB, NL, SW).

In a water purifier, a stream of water to be purified is passed adjacent a U.V. lamp and fed to a storage tank. A fast moving stream of air passes over the lamp to cool it and a slow moving stream of air moves adjacent the lamp to form ozone. The air containing the ozone is bubbled through the tank to further purify the water initially purified by the U.V. The streams of air may be fed separately, or may be formed by splitting a single stream of air.

By using fast flowing air to cool the lamp, which may be a conventional 2537A producing lamp, the lamp can be kept at the optimum working temp. to maximise ozone prodn.
9.2.79 as 300196 (24pp525).

(E) ISR: DT2551662; DT2307877; DT2225984; US3336099

WATS- ★ D15 65013B/36 ★EP ---3-90
Self powered desalination appts. - in which salt water is flas
evaporated and steam condensed after driving turbine
WATSON J DEVELOPMEN 15.12.78-GB-048745 (22.02.78-G
006983)
(05.09.79) C02b-01/06
Intermediate Priority: 27.10.78-GB-42286.
D/S: E(BE, DT, FR, IT, NL, SW).

Seawater desalination appts. includes a solar heated lagoon close to the sea. A vacuum boiler is connected to the lagoon, in which water from the lagoon is flash evapd. A turbine is driven by the resultant steam and a condense cooled by sea-water is located downstream of the turbine The condensed steam is stored and unused sea water is r circulated back into the lagoon. Constant salinity is maintained in the lagoon. The recycled water is subjecte to solar preheating prior to feeding to the lagoon.

The turbine can be used to furnish all the power requirements of the appts.
21.2.79 as 300264 (20pp525).
E(ISR): US3138546, US3928145; FR2249842; DS838722; DT1517530; NL6608441; FR-394177; GB-731997; DT2655568.

COMS ★ D15 65038B/36 ★FR 2409-77
Desalination of sea-water etc. by low temp. distillation - using
indirect heat exchanger supplied with hot fluid e.g. power statio
effluent
COMMISS ENERGIE ATOMIQUE 25.11.77-FR-035535
J01 (27.07.79) B01d-01/26 B01d-03 C02b-01/06
The process is effectect in a series of evapn. Chambers, C1 to Cn, in which evapn takes place at progressively decreasing temp. and pressure. In each chamber the vapou is condensed by an indirect exchange of heat with a primar fluid which progresses from chamber Cn to chamber C1, entering chamber Cn at a temp. T_f.

In each chamber, evapn. of the soln. is now obtained b indirect exchange of heat with a secondary fluid which circulated from the first chamber, C1, to the last chamber C i.e. flowing in reverse direction to the primary fluid through the chambers. The temp. Tc, at which the secondary fluid enters the first chamber C1, is higher than the temp Tf of the primary fluid. The soln. is pref. applied to the heating surface of the evaporative heat exchanger as a fil of liq., e.g. by spray. The evaporative heat exchanger is can, alternatively, be totally immersed in the soln. A fraction of the soln, drained from the chamber as surplus to evapn. capacity is pref. recycled together with fresh soln.

The main input of heat is no longer via the soln. to be evaporated but by way of a secondary fluid. It becomes possible to achieve high thermal efficiency from a compac installation; this is partic true when the two thermal fluids at different temps are freely available, e.g. cold seawate and hot seawater from the condensers of an electric power station. 25.11.77 as 035535(14pp448).

LECO/ ★ D15 65039B/36 ★FR 2409-782
Flocculation plant for purificn. of waste water - comprises tanks connected in series each of which contains a gutter for receiving incoming waste
LECOEUR R A J 23.11.77-FR-035237
(27.07.79) B01d-21/ C02b-01/20*
The plant comprises $\geqslant$1 tank, pref. several tanks in series. Inside the top of each tank is a gutter, pref. annular, which receives incoming waste water for treatment, a well as a chemical reagent in liq. form. The base of the gutter is made up of inclined, perfurated plates which impart a swirling motion to liq. draining through the base.

Compressed air is pref. piped into each tank via a dive-gent nozzle directed towards the tank wall. When tanks are used in series, the upstream tank pref. has a low level outlet delivering by gravity to the top gutter of the downstream tank. The downstream tank gutter is at a lower level than the gutter of the upstream tank.

Used in flocculation of waste water as part of a physico-chemical purificn. treatment. Mechanical agitators and pumps are eliminated, so the new plant is cheaper and less likely to damage the developed flakes. Excellent con-ting for rapid flocculation is obtd. 23.11.77 as 035237 pp448).

JP/ ★ D15 65041B/36 ★FR 2409-790
vice for dissolving solids into liq. stream - has solids reservoir in stant flow controllable branch circuit from main liq. flow pipe
JAU P H L 25.11.77-FR-036218
J02 (27.07.79) B01f-01 B01f-15/04

e main flow pipe passes through a regulator which cont- ns a weighted piston creating a constant pressure drop ross an orifice as a function of the weight. The branch rcuit leads from just upstream of the piston to the solids servoir and returns to a point just past the piston in the rection of flow. The flow rate in the branch is controlled a single dosage valve.

The reservoir is pref. vertical, the liq. entering and aving at the base, and is arranged so that the height of lids remaining in the reservoir has no effect on the rate dissolution. Dissolution pref. occurs only over a third the height of the solids, and the reservoir is raised bove the flow pipe such that when the device is shut down, liq. is left in the solids region of the reservoir.

The device can be used to dissolve measured amounts of terilising agents in swimming pools, and for any indust- ial process requiring steady dissolution under controlled onditions into a liq. stream or body. 25.11.77 as 36218(5pp1395).

OES/ ★ D15 65055B/36 ★FR 2409-963
Gravity filtration of water for drinking or mfr. of minerals - liminates iron, manganese and calcium as well as argillaceous ttachments
FOESSEL F 28.11.77-FR-035994
(27.07.79) C02b-01/26

The filter bed includes sand of a variety of particle sizes, filled in with clay in varying proportions. Passage through this bed eliminates from the water most of the iron and its rgillaceous attachments as well as manganese. The fil- ered water is pref. further purified by passing through a ed of activated carbon.

The installation pref. comprises, e.g. between the sand and activated carbon filters, a porous element contactor into which is injected air or other gas. The contactor de- livers via a nozzle water freed of iron and manganese, or via a further treatment which also eliminates calcium.

Used for demineralisation of natural water, partic. for drinking or for the mfr. of mineral waters. The simple inexpensive system is easy to operate. 28.11.77 as 035994 (5pp448).

LECO/ ★ D15 65056B/36 ★FR 2409-966
Decanting separator for flocculated waste water to be clarified - uses settled sludge to filter rising effluent
LECAEUR R A J 23.11.77-FR-035238
(27.07.79) B01d-21 C02c-01/26

The separator comprised a tank which has a base outlet for settled sludge and a high level overflow for clarified water. The tank now contains an open-topped vessel, with its top edge well below the tank overflow. An annular space between the inside of the tank and the outside of the vessel drains directly to the sludge outlet.

The flocculated waste water is piped directly into the bottom region of the inner vessel. Sludge settles in this bottom region, builds up further and eventually overspills into the annular space. Clarified water rises to flow from the tank overflow. Incoming waste water is pref. brought to the separator by gravity flow. The inner vessel pref. contains baffles to enhance sedimentation. The capacity of the inner vessel is pref. not less than half the vol. of waste water per hour for treatment.

Clarification of effluent is sludge settled in the inner vessel. Consequently, a separator of reduced bulk can be installed for a given duty. 23.11.77 as 035238(8pp448).

CHIT/ ★ D15 65081B/36 ★GB 1551-919
Macerator for sewage with rotating blade - sweeping over plate with apertures having self sharpening edges
CHITTENDEN J B 09.02.77-GB-005453 (11.02.76-GB-005425)
P41 (05.09.79) B02c-18/06

A macerator has a cutting blade cooperating with an aper- d plate. The plate and cutting blade are relatively rotatable and the blade sweeps over the plate to macerate or comminute material passing through the apertures.

The surface of the blade which contacts the plate is made of harder material than the plate. A spring urges the blade and plate towards each other sufficiently that the plate is eroded by the blade in use to sharpen the edges of the apertures. Pref. the blade is hard faced while the plate is of steel.

The macerator is used to comminute sewage or other slurries and liquids having a fibrous content. 9.2.77 Div. ex. 1551189 (8pp295)

CORG ★ D15 65097B/36 ★GB 2014-868
Porous hydrophobic inorganic membrane - allowing gas transport from or into an aq. medium while preventing water passage
CORNING GLASS WORKS 24.02.78-US-880778
E17 J01 P73 (E36) (05.09.79) B01d-19 B01d-53/22 B32b-03

A controlled-pore, hydrophobic inorganic membrane has ⩾90% of the pores with dia. 100-10,000 Å, pref. 900-9,000 Å, esp. 1,500-6,000 Å. The use of a siliceous material, such as glass or silica, or alumina, which can be rendered hydrophobic by treatment with octadecyl-trichloro-silane (I), for the membrane is claimed.

The membrane permits the transport of one or more gases from or into an aq. medium while preventing the passage of water through it. The transport is uniform over the entire surface area of the membrane, and, in the case of transporting a gas into an aq. medium, achieves a high gas-liq. interface without the need for agitation or excessive gas consumption. The membrane can be used for extracting hydrophobic gases from their mixts. with hydrophilic gases. 22.2.79 as 006258 (11pp558)

CORG ★ D15 65107B/36 ★GB 2014-979
BOD determn. and processing of organic waste in aq. medium - using two immobilised microbe reactors in series, the first being aerobic and the second anaerobic
CORNING GLASS WORKS 24.02.78-US-880779
(05.09.79) C02c-01/17

Organic waste in an aq. medium is processed by passage through a series of two immobilised microbe reactors. The first is an aerobic reactor contg. a porous inorganic support for accumulation of biomass; and the second is an anaerobic reactor comprising a controlled-pore, hydrophobic inorganic membrane contg. a porous inorganic support for accumulation of biomass.

Also claimed is an appts. for BOD determn. of the waste, comprising, in series, a sampling and/or sensing means, the aerobic reactor, the anaerobic reactor and another sampling and/or sensing means.

The process is rapid and tolerates the presence of solids. 23.2.79 as 006584 (13pp976)

SERE/ ★ D15 B/36 ★HU T016-860
Stable manure processing into fertiliser and gas - in cheap, easily assembled, portable appts.
SEREGELY L 25.01.78-HU-SE1889
C04 P11 (28.08.79) A01c-03

ALUM- ★ D15 B/36 ★HU T016-872
Processing mine water - by settling in trough and removing the sludge
ALUMINIUMIPARI TERV 17.06.77-HU-AU0375
(28.08.79) B01d-21

FOLD- ★ D15 B/36 ★HU T016-891
Processing mineral or other ground waters - by sepg. into prim. and sec. fractions and using latter to assist in concentrating and controlling temp. of former
FOLDMERO ES TALAJVI 27.02.76-HU-FO0735
(28.08.79) C02b-07

SAOK ★ D15 65225B/36 ★J5 4093-103
Treating waste peroxide bleaching soln. used for pulp slurry - by adding aluminium sulphate or alum cpd. to ppte. to reduce amt. of sodium silicate present
SANYO KOKUSAKU PULP 29.12.77-JA-159514
F09 (24.07.79) C02c-05/02 D21c-09/16

To a pulp slurry after bleaching with peroxide in the presence of sodium silicate is added aluminium component contg. aluminium sulphate or aluminium-contg. alum, in a mt. from ≥5% to ≤200% w.r.t. silicic acid in sodium ilicate reduced by aluminium, so that a great portion of odium silicate is converted into silicate contg. Al to insolubilise and adsorb with pulp.

In an example, sulphide type chem-mechanical pulp amt. of filtered water 640 ml. CSF) mfd. from broad-leaved tree is bleached with a soln. contg. 1% H_2O_2, 0.8% Na silicate, at 80°C. for 3 hrs. To the pulp slurry after bleaching is added aluminium sulphate soln. (100 g./l.) so that amt. of aluminium oxide to silicate component in sodium silicate reaches 40% and treated at 60°C. for 15 min. Then concn. of pulp amts. to 8% and the pulp is filtered with filter paper and washed with water. 29.12.77 as 159514 (6pp84)

SAOK ★ D15 65226B/36 ★J5 4093-104

Treating waste peroxide bleaching soln. used for pulp slurry - by adding calcium oxide to ppte. to reduce amt. of sodium silicate present

SANYO KOKUSAKU PULP 29.12.77-JA-159515

F09 (24.07.79) C02c-05/02 D21c-09/16

To pulp slurry after bleaching with peroxide in the presence of sodium silicate is added 30-200% (based on wt. of silicic acid in sodium silicate) of calcium oxide so that a great amt. of sodium silicate is converted into silicate contg. calcium insolubilised and adsorbed with pulp. The process is used to reduce amt. of sodium silicate from waste soln. at bleaching of pulp with peroxide.

In an example, sulphide series chemi-mechanical pulp (degree of filtered water 640 ml. CSF) is bleached with a soln. contg. 1% H_2O_2, 0.8% NaOH, 5% sodium silicate at 80°C. 3 hrs. at pulp concentration 20%. To the pulp slurry after bleaching is added satd. soln. of $Ca(OH)_2$ so that amt. of CaO to silicic acid component in sodium silicate reaches 133% and treated at 30°C. for 15 min. then filtered with filter paper and washed with water. Silicic acid component in sodium silicate added at bleaching is only 4.0%. 29.12.77 as 159515 (4pp84)

NIIG ★ D15 65295B/36 ★J5 4093-670

Aeration of bacteria oxidn. bath for treating waste liq. - by passing oxygen between nonwoven or foamed parallel porous plastic sheets

NIIGATA ENG KK 06.01.78-JA-000422

(24.07.79) C02c-05/10

A number of vertically extending porous sheets, e.g. nonwoven, plastic fabric sheets or foamed plastic sheets, are disposed in laterally spaced, parallel relation in an aeration bath.

Aeration nozzle tubes are located near the bottom of the bath adjacent each end of the lateral width of the spaced sheet assembly so that air bubbles delivered from the nozzle tubes rise toward the top of the liquid along the narrow vertically extending spaces beside the sheet assembly, and then turn into the hollow spaces defined between adjacent porous sheets for supply of O_2 to the bacteria which are active on the surfaces of the porous sheets and in the pores. 6.1.78 as 000422 (6pp47)

HITA ★ D15 65296B/36 ★J5 4093-671

Appts. for sepg. sludge from waste water - to be treated in denitrating tank

HITACHI KK 06.01.78-JA-000185

P41 (24.07.79) B03d-01 C02c-03

The tank is communicated with a sludge sepg. column having a float-up sludge separator in an upper space, from which the sludge floating up is fed back into the tank. The object is to separate efficiently the sludge enclosed with a gaseous substance produced in the nitrating reaction made in the tank, and control the sludge in the tank in a stable condition.

The appts. comprises a water feed pipe connected to the upper space of the column so that its upper end is opened just below an upper outlet of the column's float-up sludge separator and lower end opened below the separator.

The appts. comprises a water feed pipe connected to the upper space of the column so that its upper end is opened just below an upper outlet of the column's float-up sludge separator and lower end opened below the separator. A sluge precipitator/separator is provided in a lower space of the column. 6.1.78 as 000185 (6pp26)

SUMI- ★ D15 65305B/36 ★J5 4093-688

Adsorbent for waste water contg. organic substances - prepd. by calcining aluminium cpd. contg. sulphate radical, used esp. for treating waste water from pulp and chemical mfr.

SUMITOMO ALUMINIUM (KOEI) 05.01.78-JA-000420

F09 J01 (24.07.79) B01d-15 C02c-05/02

An adsorbent for waste water contg. organic substances, is prepd. by calcining Al cpd. contg. SO_4 radical obtd. by the reaction of aq. $Al_2(SO_4)_3$ with aq. Na- or K aluminate, at ~500-700°C., or that prepd. by regulating pH to 5-6 during the reaction of aq. $Al_2(SO_4)_3$ with aq. Na- or K aluminate.

The adsorbent is very effective for the sepn. of organic substances, particularly coloured organic substances, used in the waste water of pulp chemicals mfr. There is no fear of secondary pollution because generation of the sludge is inhibited. 5.1.78 as 000420 (4pp126)

SEIW- ★ D15 65315B/36 ★J5 4093-851

Flocculant for waste water sludges - contains araban, galactan and rhamnosan, and is used for waste from dye, metal, food or chemical prodn., pulp mills, etc.

SEIWA KASEI KK 31.12.77-JA-158156

(25.07.79) B01d-21/ C02c-05/02*

The flocculant for sludge discharged from dye mfr., metal processing, food mfr., chemical mfr., pulp mills, etc., contains araban, galactan and rhamnosan as components.

The addn. of this flocculant to waste water, after pH regulation and sludge coagulation, in an amt. of 1-20 ppm. brings about the flocculation and pptn. of (in)organics, dyes etc. present in waste water in a very short time. Impurities present in the waste water coalesce into one body, and the coalesced substance is undivisible and also strongly absorbs BOD, COD, suspended solids and dyes. The treated water is very clear, and can thus be discharged to the environment. 31.12.77 as 158156 (3pp117)

SANK- ★ D15 65316B/36 ★J5 4093-852

Appts. for purifying human waste - removes coarse foreign components before adding slaked lime, frothing and sepg. by froth flotation

SANKYO YUKI KK (ASAH-) 30.12.77-JA-158159

(25.07.79) C02c-05

Human wastes deprived of coarse foreign matters in advance are mixed with slaked lime in a proportion of more than 3 times the stoichiometric amt. necessary for sepg. the dissolved components in human wastes in the form of calcium salts ppte., the mixture is emulsified with froth while blowing in air with stirring, and then the frothy mixture is separated into froth portion and liquid portion by flotation method, where the froth portion is defoamed and dried for removal of solid content and on the other hand, the liquid portion is separated from unreacted slaked lime by pptn. for recycling to the reaction system in a human wastes treatment appts. comprising a stirrer capable of introducing air, a receiving container with a conical bottom, a flotation vessel with opening leading to the receiving container at the lower part and an overflow opening at the upper part, and a conduit pipe connecting the tower type flotation vessel's bottom and the stirrer.

The method can treat human wastes continuously in a very short time with high purifying capacity, and also can discharge highly purified treated water to the outside. The method may use an iron salt and a foaming agent, in addition to slaked lime. 30.12.77 as 158159 (4pp117)

KYOW- ★ D15 65317B/36 ★J5 4093-854

Removal of phosphoric acid (salts) from waste water - by contacting with crystalline inorganic anion exchange material contg. specified metal ions

KYOWA KAGAKU KOGYO 09.01.78-JA-000516

E36 (25.07.79) C02b-01/23 C02c-05/08

Treatment of waste water contg. phosphoric acid and salts, e.g. effluents from detergent industry, home, plating, painting, food, medical drug industry, etc., is described in which the waste water is contacted with a crystalline inorganic anion exchange body of formula:
$M^{2+}{}_{1-x}M^{3+}{}_{x}(OH)_{2+x-y}(A^{-1})_{y}.m\ H_2O$ (where M^{2+} is a divalent

l ion selected from Mg and Zn, M^{3+} is a trivalent l ion selected from Al and Fe, A^{-1} is a monovalent n, and x, y, and m are, respectively, in the range of 0, 0 y 0.5, and 0 m 2).
he method is capable of effectively and easily remov- phosphoric acid and phosphates present in waste waters harged from various fields. Pref. the cpds. which the M^{2+} include Mg, or Mg cpds., the cpds. which the M^{3+} include Al or Al cpds., and the cpds. which A^{-1} include Cl^{-}-giving cpds. and NO_3^{-}- cpds. 9.1.78 00516 (5pp117)

I- ★ D15 65336B/36 ★J5 4094-095
rochemical determn. of cadmium ion concn. esp. in waste r - using sodium or lithium tetra:phenyl-boride and reducing nt to mask copper and silver ions
IORIBA SEISAKUSHO 31.12.77-JA-158070
32 J04 M25 R16 (25.07.79) G01n-27/26

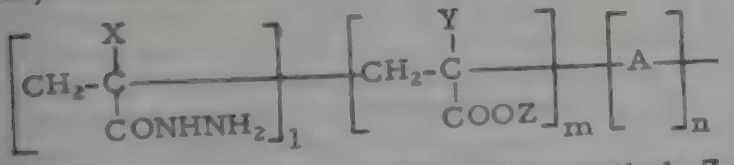
ts. for determining cadmium ion concn. comprises a sel equipped with a Cd ion-selective electrode and a re- ence electrode, an ion concn. analyser to which the out- potential between the two electrodes is applied, and a ice for supplying a masking liq. consisting of tetra- nylboron sodium or tetraphenylboron lithium, and re- ing agent (e.g. L-ascorbic acid or hydrazine) to a nple fed into the determining vessel.
The Cd ion concn. can be precisely determined by a nple and economical operation, while preventing the dering effects of copper ion and silver ion by masking. ion and Ag ion, often coexist together with Cd ion in ste water from factory, mining, etc. 31.12.77 as 3070 (4pp50)

J ★ D15 65375B/36 ★J5 4094-476
er for waste liq. contg. tar and small, solid flocs - is used by rasonically vibrating while filtering, and back-washing with ter or other liq.
HITACHI PLANT ENG CONST 11.01.78-JA-001186
J01 (26.07.79) B01d-13

e device comprises a casing partitioned by the mem- ane into two cells, and an ultrasonic vibrator for the embrane; or a filter drum covered with membrane and ing rotatably housed in the casing. Ultrasonic vibration applied to the membrane when the raw liquid flows rough it, and it is washed by reversing the flow of water liqs.
The flocs are of 50 mu dia., and the tar and flocs can removed without degrading the filterability. 11.1.78 as 1186 (3pp26)

AKB ★ D15 65379B/36 ★J5 4094-482
cale preventing agent - consisting of acrylic hydrazide contg. opolymer, used with water contg. calcium carbonate and sulphate
OTSUKA KAGAKU YAKUHIN 09.01.78-JA-001432
A97 (A14) (26.07.79) C02b-05

cale-preventing agent, consists of acrylic hydrazide co- olymer of formula (I):



$$\left[CH_2-\overset{X}{\underset{CONHNH_2}{C}}\right]_l\left[CH_2-\overset{Y}{\underset{COOZ}{C}}\right]_m\left[A\right]_n \quad (I)$$

where X is H or methyl; Y is H or methyl; Z is H, Na, K, NH_4, hydrazinium and/or organic ammonium, A is acryl- amide, acrylic ester and/or methacrylic acid ester unit and l, m and n are in the following relation: l = 5-90 mole %, m = 5-80 mole % ; n <50 mole %; and l+m+n = 100 mole %.
The scale-preventing agent may prevent the formation of scale from water contg. calcium carbonate and calcium sulphate. 9.1.78 as 001432 (8pp96)

NISO- ★ D15 65652B/36 ★J5 4095-973
Waste water treating appts. - comprising an aerating tank with active sludge and agitating means, and a settling tank
NIHON SOLID KK 14.01.78-JA-002368
(28.07.79) C02c-05/10

A waste water containing organic materials is introduced through a conduit into an aerating tank. Active sludge adhering members each composed of a float part and a hanging tail part are suspended in the aerating tank, and an agitating means is also set in the aerating tank. When active sludge is added to the aerating tank while the agitating means is driven, the active sludge is adhered to the hanging tail parts. The water treated in the aerating tank is introduced into a settling tank which is also provided with the active sludge adhering members.

The active sludge may be stably increased in all spaces in the aerating tank and the settling tank to prevent anaerobic fermentation and putrefaction, so that the waste water may be contacted with the sludge for a long time to be treated effectively. 14.1.78 as 002368 (4pp35)

TOKE ★ D15 65659B/36 ★J5 4095-980
Catalyst for oxidn. of organic content of water - uses spaced platinum meshes and cobalt oxide coated ceramic filler
TOKYO SHIBAURA ELEC LTD 13.01.78-JA-001926
J04 R16 (28.07.79) B01j-01 G01n-01

Device is charged with catalyst filler for oxidising a sample water flowing in a test pipe such as ceramic pipe of a water quality tester for combustion of organic cpds. contained in the water sample while it is heated in a heating zone, surrounding the pipe. The pipe is continuously fed with the water sample.

In the novel structure, several platinum meshes are laid in stages with spacers and followed by the catalyst filler such as ceramic fibre, ceramic grain, foamable ceramic or those coated/impregnated with cobalt oxide or other oxidising catalysts. The nets have different mesh openings to equalise the loads of the sample onto the nets. The catalyst has a long working life. 13.1.78 as 001926 (3pp26)

SUME ★ D15 65661B/36 ★J5 4095-983
Membrane module end structure - for use in reverse osmosis or ultrafiltration, allowing easy removal and insertion of semipermeable membrane
SUMITOMO ELEC IND KK 12.01.78-JA-001521
J01 (28.07.79) B01d-13

An end structure of a membrane module with a semi-permeable membrane for use in reverse osmosis or ultrafiltration of a soln. e.g. sepn. of salts from water food factory and metal working wastes, is provided. The object is to easily remove and insert the membrane into the module and to facilitate surface cleaning elements flowing in water passages of the module (sic).

In the novel structure, a tubular semipermeable membrane is folded back at the end through an end element and fixed to a support pipe through it together with a connecting pipe. The support pipe is adhered to an outer casing so that one end of the end element is held between the casing and support pipe at their ends. 12.1.78 as 001521 (3pp26)

TKEN ★ D15 65699B/36 ★J5 4096-250
Solidification of toxic waste e.g. industrial sludge - by adding water-hardenable cement and additive comprising sulphate and alkali metal (bi)carbonate
TAKENAKA KOMUTEN KK (TAKE-) 00.00.78-JA-104116 (25.05.77-JA-059848)
L02 (30.07.79) B01i-01 C02c-03

Harmful wastes, e.g. a sludge accumulated at the bottom of sea, rivers and lake etc., industrial sludge, a sewage sludge and an organic soil etc. are made harmless and strongly solidified by adding a water-hardenable cement, e.g. Portland cement, blast furnace cement, flyash cement, etc. in combination with an assisting additive comprising a sulphate, e.g. Al sulphate, alum, Fe(II) sulphate and Fe(III) sulphate, and an alkali metal (bi)carbonate, opt. together with water.

The amts. of the sulphate and the alkali metal (bi)carbonate to be added are almost stoichiometric, and the amt. of the sulphate and the alkali metal (bi)carbonate is ~ 5-30 wt.%, calculated in anhydrous state, against the amt. of the cement. If necessary other additive, e.g. setting-accelerating (or delaying) agent, foaming agent, water-proofing agent, colouring agent, antiseptic agent, surfactant, etc. may be used in combination with the assisting additive. 25.5.77 as 104116/78 Div.ex. 59848/77 (7pp34)

MITO ★ D15 65700B/36 ★J5 4096-252

Evaporating waste, hard water while avoiding scale formation - by using waste heat from the evapn. to preheat the water before pptn. of calcium, magnesium and silicon cpds.

MITSUBISHI HEAVY IND KK 13.01.78-JA-001893

J01 (30.07.79) C02c-05

In the evapn. of waste water contg. hard components, e.g. Ca, Mg, Si, etc., the improvement comprises pre-heating the waste water to 55-70°C., adding Na_2CO_3 and NaOH to ppte. Ca and Mg as $CaCO_3$ and $Mg(OH)_2$, resp., Si being copptd. with $Mg(OH)_2$, sepg.; removing fine suspended solids, e.g. by the use of anthracite as filter material, adding HCl to neutralise remaining alkali components, and evaporation to dryness to leave salts which are discharged; and supplying waste heat from the evapn. to the above preheating treatment.

Thus, the formation of scales in evapn. installations is prevented, partic. on the inner surface of the heat exchanger after operation over a few months at a steam temp of 150°C. 13.1.78 as 001893 (3pp34)

MITS- ★ D15 65701B/36 ★J5 4096-255

Conc. BOD effluent purificn. - by treating connected activated sludge treating sedimentation vessels, determining BOD, recycling surplus sludge, etc.

MITSUBISHI JUSHI EN 14.01.78-JA-009406

(30.07.79) C02c-01/06

Purification comprises treating it in succession in a solubilising vessel, a photo-synthetic bacteria treating vessel (initial treating appts.) and in a sec. treating appts. The improvement comprises using as the sec. treating appts. multi-steps activated sludge treating vessels, each of which comprises an activated sludge treating vessel and a sedimentation vessel; determining the BOD sludge load in the activated sludge treating vessels (after two steps) of the multi-steps activated sludge treating vessels at 0.1-1.0 kg. BOD/kg. MLSS days.

Process further comprises recirculating surplus activated sludge resulted in the activated sludge treating vessels from the sedimentation vessels attached to the treating vessels to the initial activated sludge treating vessel, the retention time of which is maintained at 4-48 hrs., to remove continuously BOD components from initially treated water flowed-out from the photo-synthetic bacteria treating vessel, without any solid-liquid sepn.; and treating it in the subsequent activated sludge treating vessels (after two steps) to lower its BOD content down to a pre-determined effluent standard or lower than the standard.

The process is economical and simple, and the BOD removal is carried-out in high efficiency within short period. 14.1.78 as 009406 (7pp34)

HITB ★ D15 65702B/36 ★J5 4096-261

Advanced treatment of waste waters having high BOD value - using activated sludge to remove low mol. wt. BOD components, and reverse osmosis membrane to remove higher mol. wt. components

HITACHI CHEMICAL KK 13.01.78-JA-002453

A88 (30.07.79) C02c-01/06

A high BOD waste water, e.g. fermented waste liquor and food industry waste liquor etc. is subjected to an economical advanced treatment by (i) previously treating it directly with an activated sludge composed of bacteria exhibiting higher lower molecular BOD components-digesting ability under aerobic state than conventional one and exhibiting large flocs formability, under high load within short period, and (ii) subsequently passing it through a reverse osmosis membrane, e.g. solid from Bioengineering Co. Ltd. under the commercial name of RM-97 (acetylcellulose-type) to remove effectively higher molecular BOD components which are difficult to decompose by activated sludge treatment remained in the water.

The advantage is that lower molecular BOD components are rapidly decomposed with the activated sludge, but the higher molecular BOD components are difficult to be decomposed, thereby the higher molecular BOD and COD components are removed by means of the reverse osmosis membrane. 13.1.78 as 002453 (3pp34)

KOBM ★ D15 65739B/36 ★J5 4096-4

Treating waste soln. from wet type desulphurising process - contacting with soln. of weakly basic tert. high molecular ami and contacting waste soln. with chelate resin

KOBE STEEL KK 17.01.78-JA-003978

E36 J01 (30.07.79) C02c-05/02

In the treatment of waste soln. (I) contg. quinone sulpho ate and a cpd. of ≥2 atomic value metal (sic), the improvement comprises (a) contacting (I) with a soln. of a weakly basic tert. high molecular amine at pH 1.0-2.0, and ratio of sulphonic gp. (g-equivalent)/amine (1) <10 t extract the sulphonate and the metal cpd. from (I), and contacting the extracted waste soln. with a chelate resin pH 2-6 to adsorb the residue of the metal cpd.

Pref. tert. amine is tri-n-octylamine or tri-n-lauryl-amine. The sulphonate is pref. anthraquinone disulphona The metal cpd. is pref. a V cpd. 17.1.78 as 003978 (6pp

NIRA ★ D15 65745B/36 ★J5 4096-4

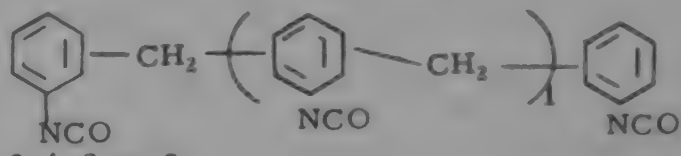
Prodn. of absorbent resin for heavy metal ions e.g. mercury - fr cyanuric chloride, thio:carbo:hydrazide and polyether to form res contg. s-triazine ring

UNITIKA KK 18.01.78-JA-004652

A97 J01 (A26) (30.07.79) B01d-15/04 B01j-01/08 C02c-05/ C09k-03

The method comprises reacting cyanuric chloride, 1-3 mol. of thiocarbohydrazide to 1 mol. of the chloride, an polyether of formula (I) in a polar non-protonic solvent o > 30 dielectric constant, to obtain a reaction prod., mixing the reaction prod. with polyisocyanate of formula (2) and hardening the mixt. to obtain the adsorbing agent of ≥1 mm. mol./g. S.

$HO-(-CH_2CH_2O)_n-H$, n is integer of above 2 (1)


(2)

l is 0, 1, 2 or 3.

The solvent is N, N-dimethyl formamide, N, N-dimethy acetoamide, N-methyl pyrrolidone, or N, N, N', N'-tetramethyl urea, N, N, N', N', N", N"-hexamethyl phosphoamid or DMSO.

The adsorbing agent is contacted with a soln. contg. mercury to adsorb the mercury. The resulting agent is treated with mineral acid to dissolve out mercury to regen erate the agent. 18.1.78 as 004652 (8pp51)

SAKA/ ★ D15 65746B/36 ★J5 4096-48

Prodn. of rotatable water from sea-water or brine - by pre-filtratio and reverse osmosis in membrane filter equipment, also fo recovering valuable components from industrial waste water

SAKAGUCHI Y 17.01.78-JA-002740

J01 (30.07.79) B01d-13 C02b-01/82

A prefiltration process is combined with a reverse osmos process. In the former process, a volume type pressurin pump is provided for pressuring the water. A pressure ac cumulator for buffering the pressure change, and a membrane filter such as ultrafiltration membrane filter for pr venting the surface of membrane from contamination are provided. In the latter process, a foldable reverse osmoti membrane separator element is used, which can be wash

The object is to easily wash a membrane of the filter and to prevent a filtrate from being polarised near the su face of the membrane. 17.1.78 as 002740 (6pp26)

ISHI ★ D15 65747B/36 ★J5 4096-48

Appts. for continuous prodn. of semipermeable membrane - e.g. o cellulose acetate resin, includes conveyor system contacting coolin liq. in tank

ISHIKAWAJIMA-HARIMA HEAV 14.01.78-JA-002945

A88 J01 (A11 A32) (30.07.79) B01d-13

Appts. for continuously producing a semipermeable membrane e.g. of cellulose acetate resin thin film usable for ultrafiltration and precision filtration, is claimed.

A conveyor is disposed in a tank filled with a cooling liq. so that the lower part of the belt is partially immersed in the liq. A raw material feed nozzle is directed towards th upper part of the belt. While turning the belt, raw materi liq. is fed from the nozzle to form a thin film over the lt and the film is solidified by the cooling liq. 14.1.78 as 2945 (5pp26)

UMD D15 31097A/17 =J7 9022-948

eatment of hexavalent chromium cpd. in industrial waste - by ducing under acidic conditions to trivalent cpd., precipitating as droxide and setting sludge with cement

SUMITOMO CEMENT KK 31.08.76-JA-103092

*E31 P35 (10.08.79) *J53028-563 B01j-01 C02c-03 + C04b-29*

n-hazardous treatment of hexavalent Cr cpd. in indust al wastes comprises reducing the hexavalent chromium d. in industrial waste water or solid wastes in acidic nditions with a reducing agent to trivalent Cr cpd. and ding alkali hydroxide to convert the trivalent Cr cpd. to soluble chrominc hydroxide.

The reducing agent is a slurry or crystals of calcium lphite by-produced in the desulphurisation of waste gas. e sludge contg. chromic hydroxide produced is set with ment. 31. 8. 76 as 103092 B01j-1/00, C02c-3/00, C04b- /00 (10. 8. 79) SUMITOMO CHEMENT KK (5pp)(J53028563)

ISC D15 20749Y/12 =J7 9023-189

wering COD of waste water - by adding cohesive agent to remove lids and adding oxidising agent

NISSAN CHEM IND KK 31.07.75-JA-092602

*E37 (11.08.79) *J52016-866 C02c-05/02*

he process comprises adjusting the pH to 9. 5-13. 5, opt. fter adding an acid or alkali, adding an inorg. cohesive gent (such as Al, ferrous or ferric sulphate, etc.) to H 3. 5-5. 5 to form solids which are sepd. opt. adding n acid to adjust its pH to 3-5. 5, and adding thereto an xidising agent (such as Na hypochlorite, Na perchlorate, tc.) to make the COD of the clarified liquor $<$30 ppm. 1. 7. 75 as 092602 C02c-5/02 (11. 8. 79) NISSAN CHEM IND K (3pp)(J52016866)

BAI D15 18220W/11 =J7 9023-505

olymeric coagulants deactivation - by treatment with ozonized air

EBARA INFILCO KK (EBAR) 07.12.72-JA-122815

*(14.08.79) *J49079-041 + C02b-01/38 C02c-05/04*

The polymeric coagulants in aq. solns. are deactivated y addn. of $>$20g. O_2/kg. coagulant. The O_3 treatment not nly reduces the activity of the coagulant but also reduces the viscosity of the soln., and thus is useful as post-coagulation pptn. treatment of waste solns.

In an example, ozonised air 0. 51. /min. (equiv$\sim$0. 5 mg. O_3/min). was passed through a waste soln. (15 ppm. anionic coagulant from the coagulation-pptn. treatment of waste soln. from bentonite extn. process for 5 mins. The viscosity (dyamical) of the soln. was reduced from 0. 74 to 0. 71 cSt, and the treated soln. did not cause the coagulation of the suspended solids in the waste soln. when equal vol. of treated soln. and pre-coagulation waste soln. were mixed. 7. 12. 72 as 122815 C02c-5/04 C02b-1/38 (14. 8. 79) EBARA INFILCO CO (5pp)(J49079041)

SEIS D15 88917A/49 =J7 9023-709

Porous pectin film prodn. - by treating inner peel of orange with alkali, gelating the aq. soln. contg. cellulose and pectin and dehydrating and drying the gel

SEISAN KAIHATSU KAGAKU 11.04.77-JA-041679

*A11 J01 (A88) (15.08.79) *J53126-070 C08j-09/28 + B01d-39/16*

The porous film is produced by treating the inner peel of oranges with alkali, gelating the aq. alkali soln. contg. cellulose and pectin, and dehydrating and drying the gel.

A porous sheet contg. many functional gps. and having hydrophilic property is obtd. As the porous sheet can selectively separate solute, it is used as a membrane for disposal of water, e.g. ultrafiltration membrane. 11. 4. 77 as 041679 C08j-9/28 B01d-39/16 (15. 8. 79) SEISAN KAIHATSU KAGAKU (3pp)(J530126070)

ECOL- D15 00655V/01 =NL-161-115

Denitrifying waste liquids - with fluidised bed of bacteria fixed to solid support particles

ECOLOTROL INC (ECO-) 19.06.72-US-264346

*(15.08.79) *NL7308-423 C02c-05/10*

Waste water is denitrified by leading it through a fluidised bed of carrier particles of 0. 2-3 mm and a specific wt. of $>$ 1. 1, to which denitrification bacteria are attached. The water should contain sufficient carbon source to allow bacterial conversion of nitrate and/or nitrite into N_2. The bed is kept at a high temp. to allow bacterial activity and excess bacterial growth is removed mechanically from the particulate carrier.

The process has a much larger flow through than in prior art. The entire surface of the particles is used and filter bed blockages are prevented. If insufficient C atoms are present, methanol is pref. added to the waste water. The pref. pH is 6. 5-8. 5 at pref. 10-25°C. Active carbon is pref. used as carrier. 18. 6. 73 as 008423 (6pp279)

ADWA- ★ D15 65803B/36 ★NL 7901-261

Aerobic treatment of waste water by activated sludge - has intermediate flocculation and filtration zone between aeration and settlement

ADWATRE INC 18.02.78-CH-001790

(21.08.79) C02c-01/06

Waste water is biologically purified in an aerobic basin with an aeration zone and a settlement zone, the two zones being sepd. by an immersed vertical wall which permits the passage of water and suspended matter across its upper edge from the aeration zone to the neighbouring zone and of sludge beneath the lower edge back into bottom of the aeration zone.

The treatment basin is equipped with an intermediate zone between the aeration zone and the settlement zone which serves as a flocculation and filtration bed. The intermediate zone is formed by the immersed vertical partition the inclined floor of the basin and an assitional inclined wall with a gap along its outer, lower edge through which the pptd. solids can fall back into the intermediate zone. The geometry of the intermediate zone is such that the communication gap between settlement zone and the intermediate zone is at approximately half the height of the latter zone and coincides with the level at which the water flow is at a minimum and is consequently laminar.

The use of the intermediate zone enables a satisfactory circulation of activated sludge to be attained without hydraulic disturbance of the settlement zone so that the clarification is maximised. The clarification is further assisted by the laminar flow zone which also serves as a filtration zone due to the presence of the coagulating particles. 16. 2. 79 as 001261 (16pp1370)

NORM- D15 34304T/22 =SU-634-658

Effluent treatment - using a chemical flocculant

NORM AMC AG (NOR-) 21.01.71-CH-000875

*(28.11.78) *CH-520-081 + B01d-21/24 C02c-05/06*

Chemical purificn. of effluent by pptn. techniques partic. for the chemical pptn. of phosphate or for carrying out other flocculation processes involves feeding the untreated effluent and ppting agent into a mixing zone in the upper region of a tank where they are thoroughly mixed, thereafter guiding the mixt. downwards through a flocculating zone into a sedimentation zone where flocculated sludge settles out and then passing the sludge-free water upwards into a clarified water zone sepd. by a partition wall in the tank from the mixing and flocculating zones. Tofaute K., Bul. 43/25.11.78 21.1.72 as 739317 (3pp)

KARP/ ★ D15 65830B/36 ★SU-634-758

Ship's petroleum-contg. water purifier - has vertical column filled with spiral pipe with perforated upper surface through which gas or emulsifier emerges

KARPINSKII YU I. 16.07.75-SU-156344

H03 Q24 (30.11.78) B01d-17/02 B63b-35/44

Device for purifying petroleum-contg. water, as used in shipboard installations, comprising a body, spiral for twisting the flow, and pipes to admit the petroleum-contg. water, and taking away the water and petroleum separately.

The cleaning quality is increased by installing a pipe along the axis of the body; this pipe has holes adjacent to the turns in the spiral. The lower end of the pipe is closed off, and the spiral turns are made hollow and have perforations in their upper surfaces. Karpinskii Yu.I., Bul. 44/30.11.78 16.7.75 as 156344 (2pp29)

KZEN= ★ D15 65832B/36 ★SU -634-761
Device for magnetic treatment of water - has electromagnetic coil around which water carrying pipes are placed with rings of ferromagnetic material, used to reduce boiler deposits
KAZAN ENG CON INST 24.12.75-SU-303132
J04 (30.11.78) B01d-35/06 C02b-09

The device comprises an electromagnetic coil, outside which pipes made od diamagnetic material, with connecting pipes to admit and withdraw the water, are installed.

Compactness and simplicity of the equipment are guaranteed by fitting the electromagnetic coil with packed rings made from ferromagnetic material adjacent to the walls of the pipelines, which are themselves made circular.

Zakhvatov G.I., Bul. 44/30.11.78 24.12.75 as 303132 (2pp29)

KVAS/ ★ D15 65835B/36 ★SU -634-764
Synthetic fibre mfr. waste water purificn. - includes treatment with activated sludge to accelerate subsequent filtration
KVASHA V B 06.12.76-SU-427171
A32 F01 (30.11.78) B01d-37/02

The degree of clarificn. of synthetic fibre prodn. aq. liquor is increased if the sorbent added to it is activated sludge, in an amt. of 0.05-1.0% of the liquor.

This is more efficient than the cationic polymer used previously, and is obtd. as waste from biological cleaning processes in the construction industry.

Kvasha V.B., Chizhova T.S., Bul. 44/30.11.78 6.12.76 as 427171 (2pp815)

LEIP- D15 38313V/21 =SU -634-772
Recycling aerator - esp. for carbohydrate fermentation reactor, with gravitational and centrifugal pump degasifiers followed by air injector and blender
VEB CHEMIEANLAGENBA 28.12.72-DL-168022
*(30.11.78) *BE-809-112 B01f-01*

A reaction mixt. esp. a carbohydrate ferment is degassed by recycling through a circuit comprising a gravitational foam separator within the reactor from which partly degassed liq. is drawn into a centrifugal pump (with an axial outlet for centrifugally separated gas) and is pumped up to a tubular overflow (into the top of the reactor) where air is injected via multiple jets and drives blend down tube and below surface of reaction mixt. The foam separator has a vertical gas-lift tube from which foam vents through a control valve and is delfected onto surface of reaction mixt. wnere it tends to break and release gas to an outlet duct.

The reactor may have e.g. 2 superimposed compartment connected via another air injection tubular overflow the liq. input to which is drawn largely from below surface to exclude foam and equalize contact conditions. Space-time efficiency is improved, e.g. 5 times over known aerating circulators, while economising 50% of specific energy requirement.

Yagush L., Schenherr W., Bul. 44/30.11.78 27.12.73 as 989715 (6pp)

MARI= ★ D15 65859B/36 ★SU -634-793
Purification of paper mill effluent waters - by froth flotation after passage through cylindrical nozzles and preventing turbulence flow in transfer chamber
MARII BR CELL PAPER 23.05.75-SU-137168
F09 P41 (30.11.78) B03d-01/14 C02c-05

The effluent waters from pulp- and-paper industry are purified by application of the froth flotation method and includes prodn. of large quantity of small-dimension air bubbles in the water passing into the flotation chamber.

The water pre-mixed with air by an ejector is pumped through cylindrical vessel contg. a number of injector nozzles. These are mounted in transfer chamber where the turbulence of the water flow is eliminated before it is admitted to the froth flotation chamber.

Kopylov V.A, Bul. 44/30.11.78 23.5.75 as 137168 (2pp135)

KUIB ★ D15 65950B/36 ★SU -635-04
Deaerator for boiler feed water, etc. - has inlet pipe terminating confuser and short intermediate cylindrical and diffuser sectio used in power station etc.
KUIBYSHEV POLY 17.02.76-SU-325963
(30.11.78) C02b-01/10

De-aerator for superheated water, fed to the boilers in power stations, and used as make-up water in heating systems, comprising a body with a pipe to admit the aerated water, and other pipes to take away the water and th steam. At the place where the inlet pipe meets the body there is a nozzle, made up of confuser and diffuser sections in series.

Effectiveness is increased by inserting a cylindrical piece between the confuser and diffuser.

The water from which the air is to be removed, at a temp. above the satn. temp. corresp. to the press. inside the body of the appts., enters through the inlet pipe to the confuser section where its velocity increases. The drop in static pressure in the water flow leads to the formation of centres of steam formation and the liberation of steam bubbles. The static pressure falls further in the small cylindrical section to a value which is less than the satn. pressure at the water temp. This leads to boiling over the entire vol. with the formation of a stable vapour phase.

Muravev V.D., Cherepanov V.B., Sverdlov A.G. et al Bul. 44/30.11.78 17.2.76 as 325963 (2pp29)

ENER= ★ D15 65951B/36 ★SU -635-046
Heavy metal-contg. industrial waste water purificn. - includes addn. of copper ore concentrate to hydroxide residue to increase filtration rate
ENERGOTSVETMET ASS 06.01.76-SU-310945
E32 M25 (30.11.78) C02c-03

The properties of the residue of heavy metal hydroxides obtd. from cleaning wastes can be improved for the purposes of filtration and dehydration by changing the structure of the material and the means by which the water mols. are held, by addn. of substances preventing deformation and adhesion of particles.

Excellent results are obtd. by addn. of a copper concentrate, obtd. from concn. of copper cres, to the residue at a rate of 5-20% of the dry wt. of the residue, an amt. of 2.5-10 g/l.

This additive improves the filtation properties at a considerably lower addn. rate than the previous additives used, such as sodium silicate, charcoal or graphite, starch and titanium dioxide, which were required in doses of up to 400% amts. of up to 50 g/l.

Selitskii G.A., Gromov A.V., Pletneva L.Ya., et al. Bul. 44/30.11.78 6.1.76 as 310945 (3pp815)

TART= ★ D15 65952B/36 ★SU -635-047
Sepn. of petroleum from petroleum prodn. waste - by turbulent mixing with hot water and laminar flow sepn.
TARTAR PETRO IND 03.01.77-SU-442194
H05 (30.11.78) C02c-03

Residues from the petroleum inds. are treated by mixing with hot water contg. a non-ionic deemulsifier such as disolvan.

A high degree of sepn. of the petroleum material can be achieved if the residue and the water are mixed at 70° C in the ratio 1:4-1:5 in a turbulent flow regime at a Reynolds no. of 3.1-3.8 x 10^5 followed by sepn. of the phases in a laminar flow regime with a flow rate of 0.5-1.0 m/hr.

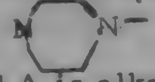
The process takes 2-4 hr., the solid particles with dia. 120-250 um settling out at a rate of 0.55-0.7 mm/sec and the petroleum particles with a dia. of 50-70 um settling out at a rate of 0.2-0.4 mm/sec. The sepn. is almos 100% compared to the 50-60% obtd. using ordinary stirring and air-blowing at a ratio of residue : water of 1:10.

Li, A.D., Volkov Yu.N., and Porman L.K., Bul. 44/30.11.78 3.1.77 as 442194 (2pp815)

★ D15 65953B/36 ★SU -635-048
resin prodn. waste water purificn. - using two/stage
emical treatment to digest epichlorohydrin and activated
e
IDMAN R A 12.04.76-SU-345245
1 (30.11.78) C02c-05/10
main constituents of epoxy resin waste liquor are
hlorohydrin (13,000 mg/l) and toluene, (200 mg/l)
he COD is ~ 20.000 mg. O_2/l.
he waste can then be treated with activated sludge to
ove the remaining impurities and reduce the COD.
vol. of waste requiring sludge treatment is reduced
fold, the process is simpler, and the cost is reduced
complete removal of epichlorohydrin is achieved.
man R.A., Marunich Yu,A, Bul. 44/30.11.78
.76 as 345245 (2pp815)

/ ★ D15 65954B/36 ★SU -635-049
hemical treatment of conc. industrial waste - using settling,
robic treatment, settling and aerobic treatments, with
enation prior to second clarification
HVETSOV V N 22.04.76-SU-349576
(30.11.78) C02c-05/10
c. waste with a BOD of 6-20 g/l is clarified, subjected
-stage anaerobic fermentation in a methane tank, cla-
ed again, and treated aerobically in an aerotank. The
hemical load in the aero-tank can be reduced if the
. of suspended material carried over is reduced, with
lated redn. in the cost of the process, and this is att-
ed by saturating the waste from the methane tank with
gen before passing it to the second settler.
The treatment suppresses the activity of anaerobic mi-
organisms, and prevents evolution of gas in the sec-
settler.
etsov V.N., Morozova K.M., Bulanyii A.Ya., et al.
. 44/30.11.78 22.4.76 as 349576 (2pp815)

SU ★ D15 65955B/36 ★SU -635-050
ste and natural water purification automatic control - by
ermining passage of fouling matter and reagents from potential
arity change at sensor
WATER SUPPLY HYDROGEOL 21.03.77-SU-463653
R21 R26 (30.11.78) G02c-05/12 G05d-27
improve water purificn. and increase reliability, the
purities passage is determined from change of polarity
the potential arising in mechanical movement of the
uid in relation to the negatively charged surface of a
nsor. The method is useful in controlling coagulation
d monitoring filtrate quality after cationite and anionite
ters.
For coagulation, the method is implemented by a mix-
, valve, clarifier, negatively charged hard surface
.g. glass), sensor, metallic electrodes and regulator.
nirnov D.N., Manusova N.B., Bobrovnik V.M. et al.
l. 44/30.11.78 21.3.77 as 463653 (2pp840)

ER= ★ D15 65996B/36 ★SU -635-094
lyethylene-amine di:thiocarbamate complexing agent prepn. -
om corresp. amine and carbon di:sulphide, used for removal of
ercury cpds. from aq. waste
STERLITAMAK KAUSTIK 11.08.75-SU-179323
E19 J01 (05.12.78) C02c-05/02 C07c-155/06
complexing agent used to remove mercury and its cpds.
om aq. waste over a wide pH range is a polyethylene-
mine dithiocarbamate of formula: AS(S=)CHNRNHC(=S)
A (where R is $(CH_2)_2N\ (CH_2)_2$ (CSSA), $CH_2)_2$- 
$H_2)_2$. $(CH_2)_2$-N(CSSA) $(CH_2)_2$N (CSSA)
$H_2)_2$ or $(CH_2)_2N/(CH_2)_2/$- $CH_2)_2$NHCSSA; and A is alkali
etal ion or ammonium ion). It is prepd. from the corr-
sp. amine and carbon disulphide in an aq. medium or
lcoholic alkali with heating.
agidullin R.N, Akhmadullin A.Kh., Bul. 44/30.11.78
1.8.75 as 179323 (3pp1047)

AQU- ★ D15 66174B/36 ★US 4164-854
esalination process using atomised mercury as refrigerant -
ncludes forming solid block of ice which is forced upwardly by
ncoming water
FAB MAQUINAS SA 23.11.77-US-854473
(21.08.79) B01d-09/04

The process includes feeding the impure water to an elongate vertical closed tank to a level above the inlet level. A body of mercury is continuously cooled externally of the tank and this is injected as finely atomised particles into the upper portion of the established water column. The mercury is withdrawn from the bottom of the tank and recirculated.

Ice crystals are formed and these are permitted to accumulate and form a solid block of ice on the upper portion of the tank above the mercury injection level. The block of ice is moved upwardly in the tank by the hydraulic pressure of the incoming impure water. The upper region of the block of ice is melted by indirect heat exchange with the impure water prior to entry into the column. The melted water is withdrawn from the top of the column and conc. salt water and pptd. salts are collected from the lower portion of the tank.

The process is used to obtain pure water from a saline soln. Because the mercury is finely atomised and is moved at a high flow rate, it can have a very small temp. differential with the saline soln. Additionally, no ice crystals form around the mercury itself. 23.11.77 as 854473 (4pp295)

TEIJ D15 65178U/43 =US 4165-217
Recovery of dyes and solvents - by contacting the dyed fibres with a low b.pt. solvent evaporating and then extracting with water
TEIJIN KK 09.05.72-JA-045052
*F06 (21.08.79) *BE-799-292 +D06p-05*

Treatment of wash waste liquor comprises (a) continuously treating fibres which have been dyed by applying a dye liquor contg. a soln. or dispersion of a nonionic dye in a high boiling water-soluble organic medium opt. mixed with a low boiling medium and then heating the fibres, with a low boilding organic solvent capable of dissolving the water-soluble organic medium, to wash out the unfixed dye and the organic medium remaining on the surface of the fibres, (b) concentrating the obtd. wash waste liquor by evaporating at least a part of the low boiling organic solvent, (c) mixing the resulting concentrate with 0.8-20 wt. pts. water per wt. pt. high boiling medium, (d) sepg. the resulting two phases and recovering low boiling solvent by evapn., and(e) removing remaining low boiling solvent by blowing steam into the residue.

The process makes it possible to recover all components in an effective manner. 26.11.74 as 527307 (+7.5.73 -US-357896) (7pp924)

AZAR/ D15 47279B/26 #US 4165-273
Water desalination cell - with bar electrodes and tubular ion exchange membranes in hexagonal pattern
AZAROV N N 14.12.77-DT-755729 (20.12.77-US-864141)
*J03 (21.08.79) *DT2755-729 +B01d-13/02*

Water is deeply desalted in a device which includes a dielectric housing. The housing has (c) a water inlet and an outlet; electrodes arranged at the vertices of a hexagon, adjacent electrodes being of apposite polarity; (b) tubular ion-exchange member surrounding each electrode and being of the same polarity as its electrode; (c) desalination chambers defined by the ion-exchange members and the housing wall and filled with ion-exchange resin for absorbing the salt ions; (d) brine chambers defined by a corresponding membrane through which water is passed to remove salt ions; and (e) a cooling arrangement for the electrodes.

Water obtd. is esp. for mfg. articles used in electronics, chemical, pharmaceutical, medical, food, etc. industries. 20.12.77 as 864141 (5pp1376)

NIIG D15 25659A/14 =US 4165-281
Waste water treatment by biological contact oxidn. - using aerating tank contg. nonwoven three/dimensional network fibre mat carrier
NIIGATA ENG KK 24.09.76-JA-114457
*(21.08.79) *DT2742-894 C02c-01/04*

In waste water treatment $\geqslant 2$ nonwoven fibrous mats are placed in an aeration tank. The fibres are synthetic and of 50-4000 denier and the mats have a 3-dimensional network structure as supporting media and a bulk density of 0.01-0.40 g/cm^3. The supporting media is 15-30 mm thick and $\geqslant 2$ of the media are arranged parallel to each other at 20-100 mm intervals in the tank causing microorganisms to be retained in the interstices of the mat. The microorganisms are used to oxidatively decompose organic polluting matter in the waste water in the presence of O_2.

Pref. the synthetic fibres are of nylon, PVdC or polyester. Large amts. of microorganisms can be retained on the supporting media without sloughing off. The treatment device is not clogged with the microorganisms and good flow of waste water is achieved. The amt. of excess sludge produced is small. 26.9.77 as 836921 (16pp393)

INPO- ★ D15 66247B/36 ★US 4165-283
Multistage liq. purificn. system - has deceleration chamber septum filter chamber and solids compactor
IND POLLUTION CONT 29.03.77-US-782435 (31.10.73-US-411248)
(21.08.79) B01d-21/26 B01d-29/42

Multistage purificn. system for removing solids from liq. comprises a vessel having a deceleration chamber for receiving incoming liq. surrounded by a filter chamber contg. a no. of septums, pref. coated with filter aid, for filtering out solids from the liq. Below the deceleration and filter chambers is a settling chamber and beneath the vessel is an ejector for removing residue liq. and compacting the solid contaminants.

As the liq. moves downwardly from the deceleration chamber it displaces liq. in the settling chamber upwardly into the filter chamber. The rising liq. passes through the septums which remove solid contaminants to provide purified liq.

Used for purifying industrial waste liq. prior to discharge into rivers or streams. Without disassembling the vessel contaminants together with any filter aid, can be removed from the septums by hydroshock and the steptums provided with a fresh coating of filter aid. 29.3.77 as 782435 (21pp67)

CNSM D15 02580A/02 =US 4165-285
Anaerobic sewage treatment - in combined tank with pumpless sludge and fluid circulation for gas collection and extraction (BE 27.12.77)
CENTRALE SUIKER MIJ NV 24.06.76-NL-006904
*(21.08.79) *DT2728-585 C02c-01/14*

Liq. effluent is anaerobically purified in an installation which has an after-settler compartment for separating sludge and liq. at the top of a reactor tank. The after-settler has an inlet from the reactor tank and a lower level outlet for recycling the sludge and liq.

Deflector shields are arranged at the inlet and outlet to the after-settler to deflect produced gases from the openings. The after-settler bottom is inclined towards the outlet. The deflectors are arranged to allow gas generated in the reactor tank to entrain liq. and sludge while rising in the tank. 21.6.77 as 808644 (8pp1376)

SCHR/ D15 42329A/24 =US 4165-286
Sewage aeration tube - with perforated elastic hose surrounding horizontal tube with clearance strips near outlet holes
SCHREIBER A 17.01.77-DT-701656
*(21.08.79) *DS2701-656 C02c-01/12 +B01f-03/04*

Appts. for the intermittent aeration of sewage is formed b a horizontal air distribution of circular pipe jacket shape closed at both ends except for an air supply. Air passage openings are located in the opposite lateral longitudinal edges of the jacket below the mid-plane. The openings an the area between them is covered by an elastic distributio foil provided with air escapes which are opened by the air supply and closed when the supply is cut off.

A distance strip between the foil and the jacket is dispo ed along each of the longitudinal edges below the passage openings such that the jacket not covered by foil, the foil between the jacket to the strip, and the strip from a space which allows air to enter with little resistance and escape into the sewage.

The appts. is to be used underwater. 16.1.78 as 869760 (5pp1376)

RIEG D15 01922B/02 =US 4165-288
Treating used vat dye liquor to recover conc. dye soln. - by filtration and inverse osmosis concn.
RIEGEL TEXTILE CORP 05.07.77-US-812911
*F06 (21.08.79) *BE-868-690 B01d-13 B01d-31*

Waste water contg. textile vat dyes, salts, lint and other foreign matter is treated to produce re-usable water and r -usable dye concentrate by filtering the water to remove undissolved matter of greater than 40 μ., and concentrating the water to a concentrate of from 30 to 1 to 200:1.

The concentration is effected by reverse osmosis which separates the water into a permeate containing excess water and dissolved salts and a concentrate of the dye in a desired amt. of water. The reverse osmosis is carried out at pressures of 400 to 1300 psig, temps. of 130 to 212 F, and through substrate tubes to pore size 0.1 to 0.5 μ. 5.7.77 as 812911 (12pp1376)

BORS/ D15 61344Y/35 =US 4165-289
Back-flushing of activated charcoal effluent filter - using water pre-heated by waste heat from process
BORST A H 18.02.76-DT-606452 (23.12.75-DT-558703)
*(21.08.79) *DT2606-452 C02c-01/18 +C02c-05/02*

Solid waste and sewage is given a pollution free treatment which is energy self-sufficient by incinerating a major portion of the solid waste to generate heat and ash; carbonising a portion of the solid waste and a portion of the particulate organic sewage to form filter coal; converting the long chain hydrocarbon molecules released during the incineration and the carbonising into short chain molecules; and filtering the sewage using the filter coal. The conversion is effected by flowing combustion gases through an O_2 deficient high temp. zone at 1300°C.

The filter coal is pref. regenerated by carbonising the organic sludge. 12.8.77 as 824148 (+22.1.76, 18.2.76-DT-602306, 606451) +22.12.76-US-753402) (29pp1376)

SeeAlso

D13 NL 7901177 D13 SU 635128

D16: FERMENTATION INDUSTRY

BREW D16 92087R/49 =DS 2027-946
Barley for malting in brewing
BREWING PATENTS LTD 11.06 69-GB-029706
*(30.08.79) *BE-751-809 +C12c-01/02*

Before making, the embryo part and the pericarp of the barley are rubbed off or removed without removing more than 2(1.2) % (based on the grain wt.) of the husk. The treated barley is then treated with a gibberillinic acid soln. during and/or after softening in water. The treatment makes the barley more permeable to the gibberillinic acid. 6.6.70 as 027946 (8pp068)

BARA/ D16 38419V/21 =DS 2253-422
Tubular appts. for microorganism growing - medium being moved by propel-lers through froth dampers and heat exchangers
BARANOVSKIJ V M 31.10.72-DT-253422
*(30.08.79) *DT2253-422 C12b-01/10*

A closed circuit constructed from an endless tube in the form of an extended toroid is used for the cultivation of microorganisms. The closed circuit is equipped with connections for introducing nutrient salts, raw material for the culture, liq. for maintaining a required pH value, innoculating microorganisms and a gas. There is also a discharge connection for the culture. The circuit for the culture. The circuit includes ≥1 propellor for mixing and circulating the fluid preceeded by a foam damper and, before that, a heat exchanger.

The foam damper consists of a cylindrical vertical pot into which the foam bubbles generated in the culture rise and a spray manifold fed by a pump which is fed by a circulating pump drawing prod. from the main loop upstream of the foam damper. The foam collapses allowing the gases to be vented whilst the liq. is recirculated back into the system immediately before the propellor. The heat exchanger has a larger cross-sectional area than that of the circulating pipe so that a laminar zone is created in which the gas bubbles are able to grow thereby promoting their effective sepn.

The system meets the two conflicting demands of a good dispersion of the feed gas to encourage the growth of the culture whilst removing the waste gas generated which tends to slow the growth rate. 31. 10. 72 as 253422 (6pp1370)

JUNG- D16 45330U/32 =DS 2305-149
Trisodium or tripotassium citrate - from difficultly -soluble citrate aq alkali and solid alkali carbonate
JUNGBUNZLAUER SPIRI (JUN -) 04.02.72-OE-000906
*E12 (30.08.79) *BE-794-726 C07c-51/52 C07c-59/16*

A highly conc. soln. of trisodium or tripotassium citrate is obtd. from which the citrate may be easily recovered. An aq. suspension of alkaline earth or alkaline earth-alkali-citrates with a concn. of 400-500g/litre is treated with sodium or potassium hydroxide to reach an alkaline medium. Immediately to the suspension at 40-80°C is added sodium or potassium carbonate in solid form esp calcine soda ash or potash, while thoroughly mixing the ingredients. After sepg, the pptd. alkaline earth carbonate any excess alkali may be neutralised with citric acid. 2. 2. 73 as 305149 (4pp068)

BEHW D16 03845X/03 =DS 2430-380
Vaccine against chagas disease - prepared from T.cruzi attenuated with phenanthridine derivs.
BEHRINGWERKE AG 25.06.74-DT-430380
*B04 (30.08.79) *BE-830-640 A61k-35/68*

Prepn. of an immunologically active substance comprises attenuated propagation of Trypanosome species, (10^3-10^8 cells/cm^3), in a protein free aq. culture medium in the presence of a phenanthridine deriv, (0. 5-10^3 γ/cm^3), for 1-20 hr at 18-37°, followed by isolation of the attenuated cells. A pref. deriv is 3, 8-diamino-5-ethyl-6-phenylphenanthridinium bromide. The prods. are used for immunisation against Trypanosome species, esp. T. cruzi. 25. 6. 75 as 430380 (6pp047)

BOEF D16 60750W/37 =DS 2506-712
Cholesterol determination procedure - in which bound cholesterol is released using microbial cholinesterase
BOEHRINGER MANNHEIM GMBH 01.03.74-OE-001679
*B04 R16 (30.08.79) *DT2506-712 G01n-31/14 G01n-33/16*

Process for the determn. of total and bonded cholesterol comprises enzymatic cleavage of bonded cholesterol using cholesterolesterase (obtd. from a wide range of micoorganisms, esp. Rhizopus spec. WS 90027, Aspergillus spec. WS 90030, and certain Actinomyces, Streptomyces, Candida and other species, but excluding Candida rugosa), followed by determ. of total chloesterol by the usual methods.

Enzyme reactions can be used for the determn of free cholesterol. The process is a valuable diagnostic aid. 18. 2. 75 as 506712 Div. in 2559875 (4pp047)

SCHI/ D16 33491A/19 =DS 2700-698
High yield microbiological prodn. of unicellular protein foodstuff - by aerobic yeast fermentation of ethanol in circulating medium
SCHICK J H 10.01.77-DT-700698
*(D13) (30.08.79) *BE-862-675 C12d-13/06*

Single-cell protein(SCP)based on ethanol (I) is produced microbiologically by cultivating, in aq. culture medium (II) having a pH value of 2. 5-4 contg. nutrient salts, acid phosphate and cpd. contg. N in the presence of (I) and O_2, yeasts ultilising (I) at 20-40°C under aerobic conditions in a fermenter (III), the biomaterial (IV) so cultivated is sepd. and dried and isolated as protein prod.

Constantly agitated (II) is circulated, and for each cycle of (II) the nutrient medium (V) is introduced , in tangential direction, at a point of the cycle path. (V) is gassed with ultrafine O_2 bubbles of size 1-7mu, (IV) produced in (III) is passed through (III) without forming a gas cushion, de-gassed outside (III) and the residence time of the gas-liq- solid mixt. in (III) is regulated to 0. 2-1. 0 h^{-1}.

The process, relative to known processes, gives higher substrate- and O_2 yields and SCP prods. of higher purity. 10. 1. 77 as 700698 (5pp481)

SCHD D16 60639A/34 =DS 2705-917
Mineralocorticoid 3 beta, 16 beta-di:hydroxy-5 androstenone prodn. - by fermentation of the di:acetate with Flavobacterium esteroaromaticum, Streptomyces halstedii or S. vinaceus
SCHERING AG 09.02.77-DT-705917
*B01 (30.08.79) *DT2705-917 C07j-01*

Prepn. of 3β, 16β-dihydroxyandrost-5-ene-17-one comprises propagation of Flavobacterium esteroaromaticum, Streptomyces halstedii or Strep. vinaceus in a suitable culture medium in the presence of the corresp. 3β, 16β-diacetoxy cpd. at pH 6. 0-7. 0, the prod. is then recovered from the culture medium. The prod. has mineral corticoidal activity. 9. 2. 77 as 705917 (3pp047)

CHEM- D16 06659A/04 =DS 2722-921
Animal and human tissue cells cultivator - keeping cells in circulating suspension by nutrient gas bubbles
CHEMAP AG 15.07.76-OE-005213
*(30.08.79) *DT2722-921 C12k-09*

Human or animal tissue cells are cultivated in a feed culture within a closed container into which an oxygen rich gas is introduced. The gas is introduced in such a manner that a circulating is induced between two zones of narrowly differing hydrostatic pressures, the circulation being just sufficient to keep the tissue culture in suspension without causing damage to the cells. The process is pref. carried out in a cylindrical vertical container inside to which, extending over a part of the height of the container there is an inner cylindrical guide wall. In the floor of the container there is a partition through which the oxygen rich gas is introduced via small holes which lie within the circumference of the guide wall.

The system enables large scale cultivation to be carried out without mechanical agitation and the consequent risk of cell damage. 20. 5. 77 as 722921 (7pp1370)

KLEI/ ★ D16 64776B/36 ★DT 2805-607
Bio-catalyst prodn. in polymer matrix - of crosslinked poly:methacrylamide by two/stage polymerisation, with addn. of microorganisms just before gelation
KLEIN J 10.02.78-DT-805607
A96 B04 (A14) (30.08.79) C12d-13/10 C12k-01

Prodn. of biocatalyst and polymer matrix from microorganisms is claimed. Mixts. are prepd. from (A) (a) moist or dry cell matter of viable or dead microorganisms and opt. (b) physiological aq. saline soln. to give the required flow; (B) a soln. or dispersion of (c) 60-90 (wt.)% methacrylamide, (d) 10-30% water-soluble divinyl cpd. e.g. N, N'-methylenebis-acrylamide, as cross-linker and (e) 0-30% comonomers to control the particular network properties, all w.r.t. (c+d+e), (f) opt. 0.05-2.0% co-initiator, e.g. tetramethylethylenediamine or dimethylaminoethyl methacrylate, (g) 0-1% mol. wt. regulator, e.g. thioethanol, (h) 0-25% water-insol. filler to increase the compressive strength(all w.r.t. b-k) in (i) water adjusted to pH 7-9 with acid, alkali or buffer; (C) (j) 0.05-2.0% water-soluble free radical initiator, e.g. peroxydisulphate (w.r.t. b-k) and (k) water in the ratio j:k = 5-30:100 and (D) (l) water-immiscible suspension medium and (m) suspension stabiliser in the ratio l:m = 10 000:1-1000 and opt. a surfactant, e.g. cetyl alcohol. The sum of (c-e) is 10-50 wt. % of the sum of (b-k), (a) is max. 40% w.r.t the sum of A+B+C and the vol. ratio of D to A+B+C is min. 2:1, to give a high mechanical stability.

After opt. degassing with O_2-free inert gas, polymerisation is carried out in B and C at a (j) concn. of 0.05-2.0 wt. % and at -5°C to +80°C. Just before the gel point is reached, A is incorporated, followed by D to give a suspension of aq. in non-aq. liq. and polymerisation is completed in suspension in the same temp. range. The biocatalyst beads formed are sped., washed with saline soln. and opt. classified; the liq. phase is opt. recycled and the viable microorganisms are opt. re-incubated to increase the biocatalytic activity.

Prod. is useful as a "fixed enzyme system" for industrial processes, analytical, diagnostic and medical applications. The fixed cells have satisfactory to high activity and the mechacrylamide block polymer has little compressibility. Gels with polymer contents of 20 wt.% have satisfactory mechanical properties, whereas higher polymer concns. (~ 40%) are needed with polyacrylamide gels, the toxicity of the monomer causing high loss of enzyme activity. 10.2.78 as 805607 (33pp016)

FRNG ★ D16 64839B/36 ★DT 2808-022

Ultrafiltration circuit with recirculation - having two ultrafilter modules mounted in vertical leg with liq. head of 0.5 to 1.5 times pressure drop in module

FRINGS H FA 24.02.78-DT-808022

J01 (30.08.79) B01d-13 B01d-31

Continuous ultra-filtration of a liq. involves the use of a circulation vessel in which the liq. level is kept automatically controlled. From this vessel liq. is recirculated round ⩾1 circuits, each of which contains ⩾2 filter modules. Filtrate from these collects in a vessel at the base of the main vessel.

Recirculation circuits have low pressure drop. In them are located ⩾2 modules mounted vertically in series with flow from top to bottom. The vertical distance between them is equivalent to 0.5 to 1.5 times the pressure drop across them.

Used for clarifying liquids esp. those contg. biological impurities such as micro-organisms e.g. in vinegar, fruit juices and wine. Gives a system which operates continuously, is environmentally favourable and has a high filter-loading with max. supervision. 24.2.78 as 808022 (12pp1053)

AGEF- ★ D16 64860B/36 ★DT 2808-242

Enriching grape juice with carbon di:oxide - by injection immediately after breaking the grapes, useful in wine making

AGEFKO KOHLENSAURE 25.02.78-DT-808242

(30.08.79) C12g-01/02

Enriching pressed grapes and fresh grape juice with CO_2 comprises adding CO_2 gas directly after destroying the skins of the fruit, so that some of the CO_2 dissolves. Pref. the CO_2 is introduced under pressued through a nozzle so that intensive mixing is achieved. Opt. the subsequent fermentation, draining, clarification and collecting vessels are also blanketed with CO_2, and pref. treatment is carried out at the temp. required for subsequent fermentation.

Used in wine making. Improved protection against oxidn., reduced amts. of SO_2 needed (by up to 40%), superior colour, aroma and taste, and improved capacity are obtd. since foaming is reduced. 25.2.78 as 808242 (14pp1251)

FINN- ★ D16 64904B/36 ★DT 2905-558

Automatic measurement of agglutination test samples - using reaction cells in which non-agglutinated particles settle away from the measuring beam

FINNPIPETTE OSMO SU 28.02.78-SF-000670

B04 J04 R16 (30.08.79) C12k-01/04 G01n-21/02 G01n-33/16

Automatic measurement of results of an agglutination test comprises first incubating the sample (to deactivate it before measurement) in a reaction vessel (e.g. a cell). The vessel is slanted during incubation so that where no agglutination occurs the non-agglomerated particles collect in the lowest part or corner and are removed from the region of the measuring radiation. When agglutination does occur, particles remain within the region of the measuring beam.

The cells may alternatively have bases suitably shaped to achieve the same sepn. between agglomerated and non-agglomerated particles. The method is useful with spectrophotometers, adsorption photometers, fluorometers and nephelometers.

Used in detection of bacteria, fungi, viruses, antigens, antibodies and abnormal proteins etc., and for pregnancy testing. It is applicable to a wide range of assay procedures. 14.2.79 as 905558 (18pp1251)

TOXN ★ D16 64907B/36 ★DT 2905-6

Immobilised protein for quantitative analysis of enzymatic reactio - comprises a biologically active protein chemically bound to wate insol. acrylonitrile polymer contg. free amino gps.

TOYO BREWING KK 17.02.78-JA-018001

A96 B04 J04 R16 (A14) (30.08.79) C07g-07 G01n-31/14 G01 33/16

Pref. the acrylonitrile polymer is porous esp. with mic -pores of av. size 40-9000 Å, and is in the form of fibre particles, membrane or hollow fibres, the polymer contains amino gps. in such a quantity that it is scarcely sol uble in water, pref. 20-1000 μ mol. amino gps. per gran polymer.

Pref. the carrier contains ⩾90% arylonitrile; esp. the carrier is a copolymer of acrylonitrile, divinylbenze and vinylethylbenzene. The giologically active protein is pref. an enzyme, attached to the carrier by physical adsorption and/or covalent bonding.

The biologically active protein is chemically attached to the carrier by covalent bonds and is therefore sepd. only with difficulty from the carrier. The protein is neither deactivated nor destroyed and keeps, for long periods, its activity towards a particular substrate. The immobilised protein can be used in quantitative analysis e.g. of the products of an enzymatic reaction of the biologically active protein is an enzyme, e.g. cholinoxidase or uricase. 14.2.79 as 905671 (64pp1401)

YAMS ★ D16 64923B/36 ★DT 2906-73

L-Lysine-alpha-oxidase prodn. from Trichoderma viride - for L-lysin enzymatic determination e.g. in clinical diagnosis or food analysis

YAMASA SHOYU KK 22.09.78-JA-115867 (27.02.78-JA-020993)

B04 (D13) (30.08.79) A61k-37/50 C07g-07/02

L-Lysine-α-oxidase (I) is a new enzyme which (a) produces α-keto-ε - aminocaproic acid, ammonia and H_2O_2 from L-lysine by oxidative deamination in the presence of water and O_2; (b) has a very low Michaelis constant; and (c) has a very high substrate specificity for L-lysine.

(I) can be used for the enzymatic determination of L-lysine, esp. in the determination of the L-lysine content of foods and beverages and in the diagnosis of lysine-uraemia or hyperlysinaemia, such determinations can be based on measurement of the amt. of α-keto-ε -aminocaproic acid or H_2O_2 formed during the enzymatic reactio or the amt. of O_2 consumed during the enzymatic reaction 21.2.79 as 906737 (+16.6.78-JA-073441) (37pp280)

FARB D16 63329B/35 =EP —3-786

Phenyl-glycine derivs. enzymatic optical resolution - by stereoselective cleavage of N-acylamide or ester derivs. with carrier-bound enzymes

BAYER AG 21.02.78-DT-807286

*A97 B05 (A14) (05.09.79) *DT2807-286 C07c-103/50 +C07b-19/02 C07c-101/08*

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

In the stereoselective cleavage of DL-phenylglycine derivs. and DL-4-hydroxyphenylglycine derivs., the ester or amide gp. of a corresp. N-acyl ester or amide is hydrolysed by means of carrier-bound enzymes; the N-acyl-D-phenylglycine ester or amide (or corresp. 4-hydroxy cpd.) is sepd. from the N-acyl-L-phenylglycine or N-acyl-L-4-hydroxyphenylglycine; and the ester or amide gp. of the D-enantiomer and/or the N-acyl gps. is/are opt subsequently acidically hydrolysed.

D-Phenylglycine and D-4-hydroxyphenylglycine are intermediates for semisynthetic penicillin antibiotics. L-Phenylglycine is also an intermediate for the sweetening agent L-asparaginyl-L-phenylglycine methyl ester.

Use of N-acyl derivs. of the starting DL cpds. allows much higher concns. of cpds. to be used than is the case with N-unsubstd. cpds.

12.2.79 as 100391 (29pp280).

(G) ISR: US3963573; GB1369462; US3816254; 2 Journal References.

IL ★ D16 65015B/36 ★EP ---3-906

hemical processes using thin-film reactor - with high-speed otation to obviate the need for arrangement to spread or maintain e film

IMPERIAL CHEM INDS LTD 21.02.78-GB-006806
A31 J04 (05.09.79) B01j-01 B01j-08/10 C08g-63/54
/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

hemical processes are claimed, characterised in that a uent reactant is continuously supplied to the surface of a otating body. The forces generated by the rotation of the ody cause a film of the reactant to move across the surace from the supply zone to a discharge zone axially emote from the supply zone.

The rate of supply of the medium and the speed of otation of the body are regulated such that a chemical eaction occurs in the film and the product of the reaction s produced during the film movement. The product is ontinuously discharged by using the centrifugal force to ling the product from the surface into the surrounding tmosphere.

The method may be used for any chemical process carried out in a thin film reactor. These include biological or biochemical reactions, esp. those which require a supply of oxygen, e.g. reactions with or in living cells; also enzymatic reactions.

Rotation of the body obviates the need for an extra mechanical member to spread or maintain the thin film.

21.2.79 as 300275 (39pp295).
(E) ISR: US3347620; FR-990163; GB1322003; CH-249864; FR2393249.

ICIL ★ D16 65016B/36 ★EP ---3-907

Chemical processes using thin-film reactor - with high-speed rotation to obviate the need for arrangement to spread or maintain the film

IMPERIAL CHEM INDS LTD 21.02.79-EP-300276 (21.02.78-GB-006806)
A31 J04 (06.09.79) B01j-01 B01j-08/10 C07d-213/22 C08c-19/14 C08g-63/54 C08g-69/26
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Chemical processes are claimed, characterised in that a fluent reactant is continuously supplied to the surface of a rotating body. The forces generated by the rotation of the body cause a film of the reactant to move across the surface from the supply zone to a discharge zone axially remote from the supply zone.

A major portion of the surface of rotation is cylindrical in shape. The rate of supply of the medium and the speed of rotation are regulated such that the chemical reaction occurs in the film and the product is continuously discharged at a rate equivalent to that of its production on the surface of rotation.

The method may be used for any chemical process carried out in a thin film reactor. These include biological or biochemical reactions, esp. those which require a supply of oxygen, e.g. reactions with or in living cells; also enzymatic reactions.

Rotation of the body obviates the need for an extra mechanical member to spread or maintain the thin film.

21.2.79 as 300276 (39pp295).
(E) ISR: US3347620; FR-990163; GB1322003; CH-249864; FR1383249.

PURD D16 63170B/35 =EP ---3-914

Dialysis compsn. for blood purification in artificial kidney - contains a surface adsorption agent e.g. carbon enzyme urease, suspension agent and zeolite-type cation exchanger

PURDUE RESEARCH FOUNDATI 27.02.78-US-881684
*A97 J01 P34 (05.09.79) *BE-874-429 +A61m-01/03 B01d-13 B01d-15*
D/S: E(DT, GB, IT, NL, SW).

Dialysis composition for the adsorption of uremic substances in an artifical kidney contains a cation exchanger suspended in a suspension medium. Pref. the compsn. contains (a) a surface adsorption agent for uremic substances, such as carbon or an ion exchange resin, (b) an enzyme, pref. urease, to catalyse the degradation of urea,(c) a suspension agent, such as methylcellulose, hydroxyethyl starch or dextran and (d) a cation exchanger, e.g. zeolite type, suspended in the suspension agent.

In an artificial kidney, to purify blood by removal of uremic substances. Improved purification of blood occurs and rapid flow of the dialysis solution by the membrane is not needed. Also, no regenerating column or proportioning system is required.

26.2.79 as 300293 (30pp315)
(E) ISR: US3463728; US3669878; DT2558363; US4071444; DT2512212.

UKSO- ★ D16 65022B/36 ★EP ---3-916

Sepn. of leukocytosis producing factor haemagglutinin prepn. - by affinity chromatography of Bordetella cells prepn.

UK SEC SOCIAL SERVI 01.03.78-GB-008089
B04 (05.09.79) C07g-07 C12d-13/06
D/S: E(CH, DT, FR, NL, SW).

Leukocytosis producing factor-haemagglutinins (LPF-HG) prod. is sepd. from a liquid prepn. derived from bacterial cells of Bordetella species. The prepn. is subjected to affinity chromatography on a stationary phase comprising an insoluble polymeric support with a sialoprotein or other substance rich in sialic acid bound to it.

Simple and economic purification process for LPF-HG sepn. with high specificity; a LPF-HG free prod. may also be recovered and contains fimbrial haemagglutinin. LPF-HG has clinical uses, esp. an adjuvant effect on antigenicity and the abilities to induce leukocytosis and sensitivity to histamine.

1.3.79 as 300312 (12pp1248).
(E) ISR: ——

RHON ★ D16 65025B/36 ★EP---3-923

Enzymes immobilised on inorganic supports - by attaching to bridging molecule bonded to support by an ester linkage

RHONE-POULENC INDUSTRIES 23.01.79-FR-001580 (16.02.78-FR-004354)
B04 C03 (D13) (05.09.79) C07g-07/02
D/S: E(BE, CH, DT, GB, IT, NL, SW).

Complexes consist of enzymes (I) covalently bonded to ≥ 1 reactive function of organic gps. grafted onto the inorganic support by ester links.

The organic gps. are pref. opt. branched 1-8C aliphatic residues (opt. contg. N and/or S and/or phenyl); cycloalkane gps.; or aryl or alkaryl gps. (the ring and/or chain opt. contg. ≥ 1N), and specified reactive gps. are NH_2, halo, SH, aldehyde or COOH.

Complexes are made by reacting the support having OH gps. with an organic cpd. (II) with ≥ 1 alcohol or phenol function and ≥ 1 reactive site to which (I) is later attached.

Esp. for immobilizing oxido-reductases; transferases; hydrolases; lyases; isomerases and ligases. The complexes are used in affinity chromatography and enzymatic catalysis, esp. in the food, pharmaceutical or plant-protection industries.

The complexes have excellent stability to mechanical forces, solvents, temp. and pressure. Compared with silanes, (II) are cheap and require less (I) for the same activity.

5.2.79 as 400070 (20pp1251).
(F) ISR: FR2192113; FR2278702; 3 Journal References.

COMS ★ D16 65030B/36 ★EP ---3-936

Automatic handling appts. for weighing - for use in nuclear, toxic chemical and infectious bacteriological laboratories

COMMISS ENERGIE ATOMIQUE 01.03.78-FR-005866
J04 K07 P62 (05.09.79) B25j-21/02 G21f-07/06
D/S: E(BE, CH, DT, GB, IT, SW).

Automatic device for weighing and emptying a product contained in a vessel provided with a lid comprises (a) appts. for bringing the container into the handling area; (b) appts. for seizing the container, placing it on a weighing appts. and for placing it facing an arrangement for manipulating the lid, these appts. being operated by jacks, and the emptying being effected by inversion of the container; (c) electrical synchronism appts. for controlling the movement of the above appts. in one direction, then subsequently in the reverse sense, with all the equipment finishing in the starting position

For all cases where the product in the container presents a danger to the user of the appts.; esp. nuclear, biologically or chemically dangerous species.

All risk of accident, toxification or infection is avoided. Difficulties in carrying out the processes by remote control are overcome.
26.2.79 as 400114.(19pp396).

(F) ISR: FR1543264; US3252559; US3090480.

KUNT/ ★ D16 65057B/36 ★FR 2409-971
Portable bin for mfg. of garden compost from vegetable waste - constructed with open grill sides and no base or top cover
KUNTZ E 24.11.77-FR-036447
(27.07.79) C05f-11/06

The bin is constructed with surrounding wall(s) made of rigid, openwork grill material, and without base or top cover, i.e. open at both ends. Mfr. comprises loading alternate layers of soil and domestic vegetable waste into the bin. With each layer of soil is added a quantity of two or three handfuls of nitrogen fertiliser, e.g. as used for lawns. A further addn is made of about 2 kg of lime per 1m^3 of compost. The material in the bin is lightly sprinkled with water and then left to compact for a month or two. The bin is pref. made up of several grills sections which can be easily dismantled and reassembled. Conveniently, the sections can be hinged together.

Used as a compost maker for amateur gardeners. The bin is inexpensive and is readily portable. It can be reused repeatedly, as soon as its contents are suitably compacted. Excellent aeration via grill apertures. 24.11.77 as 036447(5pp448).

KAFA D16 41978Y/24 =GB 1550-465
Immobilising enzymes or microbial cells - in photohardening resin contg. photopolymerisable ethylenically unsatd. gps. and nonionic hydrophilic gps.
KANSAI PAINT KK 26.11.75-JA-140839
*A97 B04 (15.08.79) *DT2629-692 C07g-07/02*

Immobilisation of enzymes or microbial cells comprises uniformly mixing an aq. dispersion of enzymes in microbial cells with a photocurable resin of $\overline{M}$n 300-30,000, having $\geq$2 photopolymerisable ethylenically unsatd. gps. per molecule and having nonionic hydrophilic gps. The mixt. is then irradiated with actinic radiation.

The resin is e.g. polyester, a urethanated adduct, of unsatd. cellulose or unsatd. polyamide. The immobilised enzymes or cells produced are easily workable. 30.6.76 as 027334 (6pp964)

INTM D16 00047Y/01 =GB 1551-783
Recovery of zearalenone from fermentation liquors - by soln. in aq. solvent and pptn. in water
INT MINERALS & CHEM CORP (COMM) 22.08.75-US-606957
*B02 C02 (30.08.79) *BE-845-377 C07d-313*

Zearalenone (I) is recovered from an aq. mixt. including an aq. phase and a solid phase contg. (I) and other undissolved solids by (i) contacting the (I) with a (I)-selective mixt. to provide a pumpable (I) soln., (ii) removing undissolved solids, (iii) adding more water to ppte. (I) and (iv) sepg. (I) from the mother liquor at a temp. at which it is insol.

The (I)-selective mixt. consists of a water-miscible organic solvent and water in amts. sufficient to selectively dissolve and transmit (I) from the solid phase to the aq. phase. Step (ii) is at a temp. sufficiently high to keep (I) in soln. and sufficiently low to prevent the other solids dissolving

Process enables (I) to be recovered from fermentation beers of e.g. Gibberella zeae. 27.7.76 as 031276 (9pp974)

WORT- D16 90421Y/51 =GB 1551-885
Biochemical sewage treatment tank - with perforated central inlet and toroidal outlet above aerated side stream nozzle
WORTHINGTON PUMP IN 07.07.76-IT-025091
*P41 (05.09.79) *DT2708-653 B01f-05/10 C02c-01/02 +B01f-03/04*

Mixer for pumpable waste, partic. for sewage oxygenation, comprises a closed vessel with waste feed radially outwar ly of a discharge, with an annulus spaced from the discharge and having spaced openings. There are nozzles co municating with the mixing space and a recirculation circu

The circuit has a pump with suction inlet connected to the annulus outlet and a discharge to the nozzles so that waste moves from the nozzles towards the vessel inner wall. An additive can be introduced into the circulating waste. A baffle pref. directs the returning flow towards th inner wall. 11.2.77 as 005742 (6pp1358)

MITU D16 69271Y/39 =GB 1552-032
Glucose isomerase preservation - in aq. soln. set to pH 9-12 (NL 20.9.77)
MITSUBISHI CHEM IND KK 26.10.76-JA-128582 (17.03.76-JA-028963)
*E13 +R16 (D17) (05.09.79) *DT2711-720 C07g-07/02 +G01n-31/14*

An aq. soln. contg. glucose isomerase is preserved by adjusting its pH to 9-12 (10-11), esp. before or after the addn. to the soln. of $\geq$1 of (1) 0.01-2 wt.% p-hydroxybenzoic esters, (2) alcohols, (3) Na, K or NH_4 salts of mineral acids, (4) 1-10 wt.% of Na or K salts of polyphosphoric acids, (5) $>$0.001 wt.% antibiotics, (6) 0.05-1.0 wt.% cationic surfactants, and (7) 0.1-5 wt.% amphoteric surfactants, the amts. being based on the soln.

The glucose isomerase can be stored for $\nless$3 days, usu ally $\nless$7 days, and even for $>$1 month. 17.3.77 as 011457 (39pp990)

HOFF ★ D16 65128B/36 ★GB 2015-157
Immunochemical assay of LDH-1 isoenzyme in serum - after removal of other isoenzyme cpds. by complexing with antiserum, for diagnosing myocardial infarct
HOFFMANN-LA ROCHE AG 27.02.78-US-882013
A96 B04 J04 R16 (05.09.79) G01n-31/14 G01n-33/16

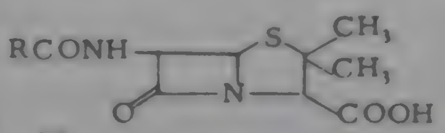
Assay of LDH_1 activity in serum comprises first treating the sample with an antibody (A) selective for the M subunit of LDH isoenzymes, so as to form complexes with LDH_n (n = 2-5). The mixt. is then treated with a second antibody (B), raised in a different animal than (A) and insolubilised on a solid support.

The reaction prod. of (B) with the complexes is then re moved and LDH_1 analysed conventionally in the supernatant Pref. (A) is goat anti-LDH_5 and (B) is donkey anti-goat γ-globulin immobilised on activated 'Kynar' (RTM for a vinylidene fluoride resin).

LDH_1 is a known marker for myocardial infarct. Metho is much more rapid than electrophoresis, and highly accurate and reproducible with a clean sepn. of LDH_1 from other isoenzymes which is not possible by ion-exchange chromatography. 26.2.79 as 006732 (5pp1251)

MASI ★ D16 65136B/36 ★J5 4067-097
Cephalosporin prodn. from penicillin - by contact with extract of Cephalosporium acremonium free from cellular tissue
MASSACHUSETTS INST TECH 07.03.77-US-775156
B02 (30.05.79) C12d-09/04

Cephalosporin free from cellular tissue is produced by contacting an extract of Cephalosporium acremonium free from cellular tissue with a starting cpd. of formula (I):



(I)

in a reaction zone, in the pres ence of an energy source. In the formula R is carboxy, amino or a combined 1-4C hydrocarbon gp.-contg. a carbody and amino group, with substit(s). at its terminal position. The energy source contains a donor for supplying phosphate salt and an enzymatic phosphotransferase. The salt is enol-pyruvic acid-2-phosphate salt and the enzymatic phosphotransferase is pyruvic acid kinase. 7.3.78 as 025045 (9pp15)

MEIT ★ D16 65541B/36 ★J5 4095-607
Metallic soap prodn. - by splitting fatty oil using lipase in presence of multivalent metal hydroxide
MEITO SANGYO CO KK 12.01.78-JA-001561
E12 (28.07.79) C07c-51/09

Metallic soap is prepd. by splitting fatty oil using lipase in the presence of hydroxide of multivalent metal. Fatty oil is olive oil, bean oil, linseed oil, rapeseed oil, ricinus oil, tallow, lard, fish oil, etc. Any lipase which has strong splitting power in alkali can be used. Lipase is used in amt. of 5-1000 units per 1 g. of fatty oil. Fatty oil is split in the presence of 5-200 wt.% of water and 100-200% (by equiv. ratio) of a hydroxide of multivalent metal (e.g., $Ca(OH)_2$, $Mg(OH)_2$, $Ba(OH)_2$, $Al(OH)_3$, $Cd(OH)_2$, $Mn(OH)_2$, $Co(OH)_2$, $Pb(OH)_2$, $Zn(OH)_2$, $Zn(OH)_2$, $Cr(OH)_2$, etc. in the presence of lipase. Metallic soap is sepd. by the removal of glycerine using solvent (such as water, acetone, ethanol).

Fatty oil is split readily into fatty acid and glycerine in a high rate, and metallic soap of high quality is obtd. easily. 12.1.78 as 001561 (3pp170)

KOGY ★ D16 65624B/36 ★J5 4095-788
Prepn. of algae of adhesive diatomeae - which contains more chloroform-extractable oil than Chlorella on dry basis
IND RES INST OF JAPAN (NISH-) 12.01.78-JA-001536
(28.07.79) C12k-01

Prepn. of an algal body of adhesive Diatomeae such as Phaeodactylum tricornutum, Nitzchia sp., etc., which contains more chloroform-extractable oil than Chlorella on a dry basis, is claimed.

Culture is effected with supply of a gas contg. very small amt. of CO_2 such as air with irradiation of artificial light or sunlight, in a medium comprising (A) Haxo-Sweeny modification I culture medium (HSM-I) (a) which contains 2-4 times amt. of the aq. soil extract as that in Haxo-Sweeny culture medium, (b) which contains 5-8 v/v% of the aq. soil extract or (c) which contains the dry matter obtd. by drying the same amt. of the aq. soil extract to dryness, (B) Haxo-Sweeny modification II culture medium (HSM-II) which is obtd. by combining 2-3 times amt. of salt as that contained in HSM-I, or (C) HSM-I or HSM-II which contains Na nitrate instead of K nitrate.

Solar energy is utilised effectively. 12.1.78 as 001536 (5pp5)

TORA ★ D16 65625B/36 ★J5 4095-795
Interferon prodn. - by culturing medium comprising inorganic salt aq. soln., contg. amino acid or glutamine
TORAY INDS INC 13.01.78-JA-001887
B04 (28.07.79) C12d-13

Method which comprises culturing a medium for interferon prodn. comprising inorganic salt aq. soln. contg. amino acid component comprising total amt. or ⩾50 wt.% of glutamine after treatment of the cell with interferon inducing agent.

Suitable concn. of glutamine to be added in inorganic salt aq. soln. is 100 mg./L - 1,000 mg./L (~300 mg./L). 13.1.78 as 001887 (4pp69)

HAYB ★ D16 65681B/36 ★J5 4096-093
Determn. of alpha-amylase activity in biological fluids etc. - by treating sample with gamma-cyclodextrin in presence of alpha-glucosidase then determining reaction prod.
HAYASHIBARA BIOCHEM 14.01.78-JA-002963
B04 R16 (30.07.79) G01n-23/16 G01n-31/14

The method comprises reacting γ-cyclodextrin as the substrate with a specimen contg. α-amylase in the presence of α-glucosidase and then measuring the reaction prod. Pref. the amt. of α-glucosidase is 10 times that of the α-amylase. The α-glucosidase has optimum pH near or similar to that of α-amylase in the specimen to be determined. The reaction is carried out at pH 4-9, and 20-50°C.

The presence of α-glycosidase improves the rate of hydrolysis of γ-dextrin and this results in making the determination of the activity of α-amylase easy. The method is applied to determining α-amylase in body fluid, secreted substances, excrements of human and animals, etc. 14.1.78 as 002963 (5pp90)

PHIP D16 67485S/42 #J7 9022-519
Microbiological synthesis of proteins andamino acids
PHILLIPS PETROLEUM CO 13.04.70-US-028074 (27.04.71-JA-027860)
*B04 (D13) (07.08.79) *BE-765-549 C12b-01/08 C12d-13/06*

In a method for producing protein by culturing bacteria in mineral medium by use of oxygenated hydrocarbons (I) as carbon source, the improvement comprises treating (I) with N-contg. cpd. to render aldehydes in (I) harmless. 27.4.71 as 027860 C12d-13/06, C12b-1/08, (7.8.79) PHILLIPS PETROLEUM CO. (10pp83) (J47039696)

CHIA D16 44357V/24 =J7 9022-900
Fermentation waste fertilizer - addn. of lime nitrogen reduces viscosity and the mixt. then can be dried and granulated
CHISSO ASAHI HIRYO KK (CHCC) 14.06.72-JA-058547
*C04 (09.08.79) *J49018-662 +C05f-07 C05g-01*

Addn. of lime nitrogen (sic), into liq. fermn. waste reduced viscosity of the waste and made it possible to condense to dryness. The dried material can be used as nitrogen fertilisers. This treatment eliminates water pollution with liq. fermn. wastes economically.

In an example glutamate fermn. waste was mixed with lime nitrogen the mixt. was concnd. to dryness. Application of the dried product gave increased strawberry crops. 14.6.72 as 058547 C05g-1/00, C05f-7/00, C05c-7/00 (9.8.79) CHISSO ASAHI FERTILISER (3pp)(J49018662)

IIZU/ D16 39400A/22 =J7 9022-916
Accelerating growth of laver during cultivation - by applying extract of edible Basidiomycetes fungi mycelium
IIZUKA C 25.09.76-JA-114971
*P13 (09.08.79) *J53044-392 A01g-33/02*

The growth of cultivated laver is accelerated by extract of mycelium of edible fungi. Mycelium of edible fungi belonging to Basidiomycetes, e.g. Cortinellus shiitake, is crushed in fine particles, mixed with water (~400 vol. %), adjusted to pH 4.0-6.0 and heated in a sealed vessel at 30-35°C for 1 hr. and then at 45-55°C for 1-2 hrs. The prod. is filtered under pressure, and the filtrate is sterilised.

The extract contains polysaccharides, polypeptides, amino acids, vitamins (B_2, B_{12}, D_2), organic Ge cpds. and other components. The prepd. extract is added to culture medium for laver, and the laver is immersed in the medium for a predetermined period, followed by normal cultivation, or cultivation is conducted in a culture medium contg. the extract. Concn. of the extract is $^1/_{500}$-$^1/_{100,000}$ in the culture medium.

Good and rapid, disease-free growth of the laver is obtd. 25.9.76 as 114971 A01g-33/02 (9.8.79)IIZUKA C (10pp)(J53044392)

PLAN= ★ D16 65811B/36 ★SU-634-726
Entomopathogenic bacterial biomass prodn. - includes introduction of bacterial spores into sterile fermenter before addn. of hot nutrient, to increase yield
PLANTS BACT PREP 28.06.77-SU-501105
(30.11.78) A01n-15

Entomopathogenic bacterial biomass prepn. includes sterilisation of fermenter, filling it with hot nutrient medium, cooling to the temp. which produces optimal bacterial growth, introduction of the inoculant culture and subsequent submerged culturing.

In order to minimise the occurrance of bacteriophagic fermentation the inoculant is introduced immediately after the sterilisation of the fermentation vessel, which is then filled with hot nutrient at 70-110°C. The fermenter is then cooled to the specified temp., and the culturing is conducted by a submerged method. The biomass is then sepd. and dried. The method gives high yield of bacterial biomass.

Chupin A.A., Kozlov A.I., Freiman V.B., et al. Bul. 44/30.11.78 28.6.77 as 501105 (2pp938)

SHAM/ ★ D16 65824B/36 ★SU-634-749
Erythrocyte based diagnostic compsn. prepn. - by sensitising erythrocytes with globulin in presence of rivanol as conjugating agent, used in rheumatoid factor estimation
SHAMARDIN V A 11.07.77-SU-508437
B04 (30.11.78) A61k-39

The diagnostic prepn. is used in medicine for the determn. of reagents for the Fc-fragment of immunoglobulin G.

It is produced by sensitising erythrocytes with a globulin prepn. in the presence of a conjugating agent.

The sensitivity of the diagnostic prepn. is increased by using rivanol as the conjugating agent. The prepn. can be used for diagnosis in numerous diseases. It per-

mits quantitative determn. of protein A of staphylococcus, and also of the rheumatoid factor.
Shamardin V.A., and Karalnik B.V., Bul. 44/30.11.78
11.7.77 as 508437 (2pp70)

ROAN= ★ D16 65825B/36 ★SU -634-750
Vibrio phosphorescens P-9510 serotype 6 - contg. specific q-antigen, used as producer agglutinating serum for serological typing and identification of luminescent vibrios
ROST ANTI-PLAGUE 04.04.77-SU-476288
B04 (30.11.78) A61k-39/02 C12k-01/02

The strain Vibrio phosphorescens P-9510 serotype 6, is a producer of typical agglutinating serums. The strain contains a specific O-antigen differing from cholera inducers and vibrions of the Heiberg I gp.

The agglutinating serums produced with the use of the title strain serve for identification and serological classificn. of the vibrions I of Heiberg gp., with positive and negative luminescence phenomena. The vibrions detected belong to the 6-serotype of the luminscent Heiberg's vibrions.

Galtseva G.V., Voronezhskaya L.G., Bul. 44/30.11.78
4.4.77 as 476288 (2pp70)

ATCH= ★ D16 65858B/36 ★SU -634-792
Promoter for flotation of non-sulphide ores - contg. specified yeast lipid mixt. to improve selectivity
AS TADZ CHEM INST (ABMI=) 27.07.77-SU-513521
E19 J01 M25 P41 (30.11.78) B03d-01/02

The promoter consists of lipides from Lipomyces Lipomyces Lipoferus 199 yeasts.

These lipids mainly include: triglycerides in admixt. with phospholipids, sterols, free fatty acids and other cpds.

The use of lipids from Lipocymes Lipoferus 199 yeasts as the promoter increased the quality of the concentrate by ~5.4% with the increase of fluorite (fluospar) in the concentrate by 3-3.5% as compared with the conventional promoters.

Solozhenkin P.M., Lyubavina L.L., Zalashko M.V., et al. Bul. 44/30.11.78 27.7.77 as 513521 (2pp48)

KIFO= ★ D16 66028B/36 ★SU -635-127
Prodn. of malt extract for dietary or medicinal food mfr. - from mixt. of malted maize, oats and wheat, with addn. of aq. extract of malted grain sprouts
KIEV FOOD IND TECHN 18.07.77-SU-508795
(D13) (30.11.78) C12c-01/18

Malt extract, used in dietary food mfr. and in medicinal food prepns., is obtd. by malting maize, fragmenting malted grains, mixng it with water, enzymatic hydrolysis of wash and concn. in vacuo.

In order to increase the nutrient value of the malt extract and increase its yield and biological activity, the malted wheat and malted oats grains are added to malted maize during the washing process in wt. ratio 0.8:0.8: 0.8-1.2:1.2:1.2. After the sepn. of wort by vacuum filtration it is treated with 3-5% aq. extract of malted grain sprouts contg. 5-8% solids. It is then concentrated in vacuo for 2-3 sec. using 1.0-1.5 mm film.

Demchuk S.G., Ivanov V.S., Yakubovich F.F. et al
Bul. 44/30.11.78 18.7.77 as 508795 (2pp938)

FOOD= ★ D16 66030B/36 ★SU -635-129
Stable brandy-type spirit prodn. - includes ultrafiltration through hollow intertwined polymer fibrous layer to remove polyphenol derivs.
FOOD IND CORRESP IN 14.09.77-SU-520770
A88 (30.11.78) C12g-03/12

Brandy-type spirit is produced by treating matured alcohol with water, colouring agents etc. holding the blend, stabilising, filtering and dispensing. The prod. loss is reduced and the mfg. process is accelerated if the brandy-type spirit grains prod. free of cloudiness is stabilised by removing polyphenol derivs. using ultrafiltration on hollow intertwined polymer fibres layer, and subsequent holding for 30-60 hrs. at 20-25°C. Typical fibrous material is polyethylene, cellulose deriv. etc.

The method gives low cost brandy-type spirit contg. 40-42 vol%alcohol and 1.5-1.6% sugars.

Tokhmakhchi N.S., Birzha I.Sh. Lozovik G.Ya., Bul. 44/
30.11.78 14.9.77 as 520770 (2pp938)

POUL= ★ D16 66031B/36 ★SU -635-130
Airborne microorganisms trap - has two symmetrical sprayers with the narrow ends of their funnels facing each other
POULTRY VETER SCIE 08.06.77-SU-496041
(05.12.78) C12k-01

Increased adsorption of microorganisms is ensured by increase in the dispersion of the aerosol using an additional sprayer inside the vessel. The two sprayers are set symmetrically, and the narrow part of their funnels face each other.

Air evacuation through connector produces partial vacuum in the vessel, and the examined air flows through inlet ports and funnels to spray the nutrient soln. The latter arises in the capillaries, the symmetrical sprayers ensuring intensive mixing of droplets. This increases the adsorption of the microorganisms.

Sokolov V.D., Shornikov V.V., Pridybailo N.D. et al.
Bul. 44/30.11.78 8.6.77 as 496041(2pp89)

OSTR/ ★ D16 66032B/36 ★SU -635-131
Non-agglutinating vibrios strain identification - using specified phage strain to improve accuracy of medical diagnosis
OSTROUMOVA N M 06.05.77-SU-484001
B04 P31 (30.11.78) A61b-10 C12k-01/04

Phagum cholericum 77 UP serotype strain is used in medical diagnosis for the identification of NAG-vibrios 44-serotype infections.

This strain has wide spectrum of lytic activity with respect to NAG-vibrios 0-44 serotype, which improves the accuracy of the diagnosis of non-agglutinating vibrios 44-serotype infections.

Ostrovmova N.M., Moroz V.P., Agapova Z.M. et al.
Bul. 44/30.11.78 6.5.77 as 484001 (2pp938)

POLT= ★ D16 66113B/36 ★SU -635-424
Determining activity of phosphofructokinase in animal sperm - using specified enzyme inhibitor and activator to assess its suitability for artificial insemination
POLTAVA PIG FARMING 27.12.76-SU-436600
B04 C03 R16 (30.11.78) G01n-31/14

The activity of phosphofructokinase in animal sperm is determined by adding a sample into the reactive medium and incubating the mixt.

The accuracy of this method is increased by adding to the reaction medium, before the sperm sample, hydrazine sulphate to inhibit triosuphosphatisomerase, and $MgCl_2$ to activate the reaction. The activity of phosphofructokinase is determined according to the content of phosphotrioses or the decrease of the fructose content in the reaction mixt. By this method, the suitability of the sperm for the artificial insemination is assessed.

Kurilo Yu.G., Bul. 44/30.11.78 27.12.76 as 436600 (3pp.70)

RIME= ★ D16 66114B/36 ★SU -635-425
Immunosuppressant drug dose evaluation - includes treating blood plasma with leucine-amino peptidase and determining enzyme activity
RIGA MED INST 15.07.77-SU-507156
B04 J04 R16 (30.11.78) G01n-33/16

Assessment of a suitable dosage of immuno-depressants, esp. determn. of the overdosage danger, can be carried out by examining blood before and after the application of the immuno-depressant.

A much quicker method consists in sepg. the plasma from the blood; determng. the initial activity of the leucineamino-peptidase; incubating the sample in a medium contg. L-leucyl-β-naphthyl-amide; terminating the reaction by cooling with a soln. of strong red B; and again determng. the activity of leucine-amino-peptidase. If the activity of the enzyme exceeds the initial activity 3-15 times, the dosage of the immuno-depressant is excessive.

The method is rapid and reliable.

Rozental R.I., Eideman G.R., Sochnev A.M. et al. Bul. 44/30.11.78 15.7.77 as 507156 (2pp70)

OT= ★ D16 66125B/36 ★SU-635-626
ectric evaporator for concn. of chemical suspension - has ectroconducting collectors as zero electrodes interconnected by o-part insulating tube
BIOTECH RES INST *09.09.76-SU-403421
J01 Q72 R59 (30.11.78) F22b-01/30 H05b-03/60

nown appts. contained collectors, an insulating tube, ontrol, travel advance mechanism and electrodes. Now, or greater reliability ensured by reduced electrode current density, the collectors are electro-conducting and ct as zero electrodes with phase electrodes in between hem. The insulating tube is made from two parts, and he control is a dielectric rod.

Proposed electrode evaporator is useful for concn. f soln. and suspensions by production of Joule heat in assing 50 Hz current through them. It can be used in .g. the chemicals, microbiological, foodstuffs and pharmaceutical inds. for small scale prodn.

Jtkin Yu.P., Gavrilin A.V., Bul. 44/30.11.78 9.9.76 s 403421 (3pp840)

URG= ★ D16 66139B/36 ★SU-635-943
ompsn. for treating grain before sowing - contg. antibiotic roducer mycelium suspension in water, to increase grain crop ield
KURGAN SINTEZ 10.05.77-SU-481878
C03 P11 (15.12.78) A01c-01 A01n-21/02

The grain crop yield and the germination activity are increased by treating grain 24 hrs. before sowing with org. suspension of antibiotic producing mycelium.

For optimal biological activity the suspension comprises (in pts. wt.): mycelium 1; water 100-1000. The suspension to grain wt. ratio is 1:(10-25) for best results.

The compsn. is cheap and the dosage is not critical.

Kuznetsov P.I., Pominalinik G.A., Kuznetsova M.A. Bul. 45/5.12.78 10.5.77 as 481878 (2pp938)

PHIP ★ D16 66168B/36 ★US 3965-985
Microbial synthesis from oxygenated hydrocarbon feedstock - giving polymeric gum prod. useful as water flood additive, drilling mud additive and plugging agent
PHILLIPS PETROLEUM CO 18.10.74-US-515873 (12.08.68-US-751926)
A97 H01 Q49 (H04) (29.06.76) E21b-43/16

Method of water flooding comprises diluting a polymeric gum (I) possessing water viscosifying properties, with water or brine to a suitable viscosity and injecting the resulting diluted gum into an oil bearing strata. Method of treating drilling mud comprises mixing (I) with drilling mud and thus adjusting the viscosity of the mud. Method of plugging an oil bearing strata comprises solubilising at a pH below 10 (I); injecting solubilised (I) into the formatiotion; and then injecting an alkaline material into the formation to raise the pH of the solubilised (I) thus increasing the viscosity of (I) in the formation.

(I) is produced by microbiosynthesis as cellular prodn. prods. from oxygenated hydrocarbon feedstock containing aldehydes and other oxygenated hydrocarbons. The feedstock is formed by adding at least one N contg. cpd. reactive with the aldehydes rendering them innocuous. Oxygenated hydrocarbon-utilising microorganisms effective to produce (I) under fermentation conditions are then cultured on the feedstock. The microorganism is selected from Pseudomonas, Methanomonas, Arthobacter, Corynebacterium, Bacillus, Mycobacterium, Actinomyces, Nocardia, Micrococcus, Rhodobacillus, Chromatium, Serratia, Rhizobium, Aerobacter, Escherichia and Streptococcus.

(I) can be used as water flood additives, as in the recovery of oil, or as a drilling mud additive and as a water loss control agent. (I) will increase the viscosity of a drilling mud and will hold suspended solids. (I) has no sensitivity to salts and is compatible with other mud additives. (I) can also be used as a selective plugging agent and viscosifier for oil formations. (I) is protected from microbial degradation by high pH. 18.10.74 as 515873 Div. ex. 3856774, 3642758 (cf. 01831W/01) (+29.7.71, 4.6.73-US-167177, 366563) (9pp954)

FLEM- ★ D16 66181B/36 ★US 4164-902
Wine fermentation tank with inner perforated screen - has juice discharge outlets at different levels including near solids discharge outlet
FLEMING-POTTER CO 06.09.78-US-940113
(21.08.79) C12g-01/02

A wine fermentation tank comprises a cylindrical outer tank having a top opening and a convergent frusto-conical bottom wall forming a discharge opening. An inner screen is concentric with the outer tank and forms a cavity for the crushed grapes. There is a narrow annular channel between the inner screen and outer tank into which juice from the crushed grapes passes.

The tank side wall has a discharge opening above the bottom wall for receipt of the juice from the annular channel. A removable screen is positioned over the discharge opening. The discharge opening includes separate fluid and solids outlets.

Using the tank the juice yield is increased. In an example, 138 gallons/ton of crushed grapes are recovered with 1.5% solids in the extracted juice. A comparable figure for conventional methods is 110 to 120 gallons/ton.
6.9.78 as 940113 (6pp295)

MERI ★ D16 66229B/36 ★US 4165-250
Recovery of purified riboflavin from fermentation broths - by controlled dilution and centrifuging procedures
MERCK & CO INC 14.11.77-US-850991 (29.08.75-US-609132)
B02 C03 E13 (D13) (21.08.79) C12d-05/04

Purified riboflavin (I) is recovered from a fermentation broth contg. cells by first-heating the broth to 50-65°C for 15-45 mins. to lyse the cells and decrease broth velocity, adding to the heated broth sufficient water to redissolve some solids and to permit centrifugal sepn. of solid suspended particles having a lower density than crystalline (I), centrifuging, sepg. the resulting sludge and resuspending it in water to redissolve some solids and to optimise sepn. of solid particles having a lower density than crystalline (I), and finally centrifuging to give a centrifugate contg. (I).

The process is economical, recovery of (I) is maximised and the prod. is suitable for direct use as an animal feed supplement or for further purification for pharmaceutical use. 14.11.77 as 850991 (+22.3.76-US-669139) (3pp1248)

CONO ★ D16 66233B/36 ★US 4165-257
Improving filterability of bio-polymers used in oil recovery - by caustic enzyme treatment
CONTINENTAL OIL CO 13.03.78-US-886021
A97 H01 Q49 (21.08.79) C12d-13/04 E21b-43/22

In the recovery of hydrocarbons from subterranean formations by flooding with aq. mixt. of biopolymers treated with enzymes to solubilise cell debris prior to filtration, the improvement comprises improving the filterability of the polymer by treating it with 'Esperase' (RTM) enzyme at a pH of 12.5-13. Specifically, the enzyme is used in an amt. of 2½-10 wt.% and the treatment is affected at 75-120°F. The filtration is effected using diatomaceous earth filters.

The combination of the specific enzyme and the high pH acts synergistically to improve filterability and reduce filter plugging if filtration is necessary. 13.3.78 as 886021 (4pp920)

FORE- D16 12818Y/08 =US 4165-387
Brewing beer of better storage stability - using strain of barley with very low anthocyanogen and catechine content
FORENEDE BRYGGENER AS 15.10.75-DK-004640
*E13 (21.08.79) *BE-847-191 +C12c-01 C12c-11/04*

Beer of acceptable stability and taste is mfd. such that the wort extracted from barley or malted barley is fermented to produce beer. In the process, a strain of barley is used having a content of <20 mg of anthocyanogens per 100 g of dry matter caused by an inherent genetical blocking of the anthocyanogen synthesis in the barley.

Pref. the barley used is the mutant ANT-13 of the strain Foma, and has a anthocyanogens content of <10 mg per 100 g of dry matter.

The haze in beers attributable to anthocyanogens (3,4-flavanediols) and/or catechins is reduced without the addn. of precipitants or further additives. 12.10.76 as 731497 (3pp931)

GRAI D16 27923B/15 =US 4165-388
Prepn. of roasted non-malted barley - by controlled heating, used to replace part of the malt in beer brewing
GRAIN PROCESSING CORP 08.09.78-US-940719 (09.12.77-US-859124)
*+P41 (21.08.79) *BE-872-607 C12c-05 C12c-07 +C12c-11/04*

A torrefied, unmalted barley compsn. is prepd. for use in a brewer's mash, which is used to produce a nondistilled, fermented beverage. The process comprises heating unmalted barley of protein content ≥12% to a temp. sufficient to expand the barley to the extent such that a given vol. of unheated barley weights 1.4-1.75 times the wt. of heated barley. The heat-treated barley is then recovered as the prod.

Pref. the moisture content of the unmalted barley is a justed to 12-20 wt.% before heating, using an aq. soln. o sodium bisulphite.

The prod. is used for producing a non-distilled, ferme ted beverage from a malt-contg. mash by replacing a por tion of the untreated malt. 8.9.78 as 940719 (6pp931)

See Also

D13 SU 634729
D13 SU 635128
D17 J5 4095744
D17 J5 4095746
D21 SW 7711735
D22 J5 4095722

D17: SUGAR; STARCH

BUHL D17 22244Y/13 =DS 2642-628
Starch and gluten prodn. from wheat, rye or barley - by comminuting grains and sepg. endosperm fractions by centrifuging
BUHLER GEBR AG 23.09.75-CH-012347
*P41 (30.08.79) *DT2642-628 A23j-01/12 B02c-19 C13l-01/06*

Starch (I) and gluten (II) are produced from wheat (III), rye (IV) or barley (V), by dispersing in H_2O endosperm fractions from the milling and the dispersion is sepd. by centrifuging into a fraction (VI) rich in (I) and a light fraction (VII) rich in (II). (VII) is held at elevated temp. until (II) forms thread- form agglomerates (VIII) then (VIII) are enlonged by adding H_2O and vigorously processing the liq. mixt.

(III), (IV) or (V) are first led through several passes of a pair of rollers and a sieve device (e.g. a plan sifting machine of a conventional malt crushing room (IX) and so crushed. The grits so obtd. are reduced in passes with grooved rolls. The reduced grit prods. and the fine prod. of (IX) are further ground by compression and rebound passes (X) with a pair of rolls having smooth rollers and a rebound mixer, while keeping a low velocity ratio between fast and slow rollers.

Unfinished milled- and/or sifted prods. from (X) are ground to completion in a small number of end- mill passes having smooth (or possibly fine-grooved) rolls. A milled prod. is withdrawn from all passes and is added to the dispersion stage, opt. with intermediate storage. 22.9.76 as 642628 (7pp481)

PINE- ★ D17 65046B/36 ★FR 2409-851
Press for sugar cane extn. - gives alternating phases of compression and decompression, including beating, ending with sugar cake (BR 31.7.79)
PINETTE-EMIDECAU 28.11.77-FR-035692
P71 +R16 (27.07.79) B30b-09/20 C13d-01/02 G01n-33/02

A press system is claimed, which extracts juice and leaves a residual cake of solid material. There is a loading position and central moving bucket in a collector. The bucket is moved to a second part of the press and undergoes, for a defined time, a phase of compression extraction, and alternate decompression. This is followed by manual ejection of the cake.

Several such modules can be used to make up one complete press. Decompression is carried out by a beater which can be locked in the compression cycle. The whole press is housed in a drum shaped structure. 28.11.77 as 035692(14pp1149).

SHOS ★ D17 65614B/36 ★J5 4095-744
Isomerisation of glucose to fructose - using water-insol. gel of suitable microbial bodies and other additives
SHOWA SANGYO KK 08.01.76-JA-001789
E13 (D16) (28.07.79) C12d-13 C13k-03

Method comprises using a water insoluble gel of microbial body which is prepd. by using the microbial body showing glucose-isomerase activity and ≥1 of agar, gelatin, collagen, pectin, konjak powder, locust bean gum, casein, wheat gluten, soy bean protein, egg white, tannin, persimmon tannin, four and starch.

Glucose-isomerase is an endoenzyme and the microbial body itself can be inexpensively made to the insolubilised enzyme showing high enzymic activity. The insolubilised enzyme is inexpensive and the isomerising proces can be stably practiced without the complex steps for regulating S.V., temp., etc. which has been required by the isomerising process using conventional expensive insolubilised enzyme in fixed bed. 8.1.76 as 001789 (4pp5)

ASAF ★ D17 65616B/36 ★J5 4095-74
Fructose sepn. from glucose - by diffuse-dialysis of isomerised suga soln. or hydrolysed sucrose soln. using cation exchange membrane
ASAHI DOW KK 13.01.78-JA-001946
A88 E13 (A91 D16) (28.07.79) C13k-11

Method comprises diffuse-dialysing isomerised sugar sol or sucrose hydrolysed soln. using cation exchange membrane. As cation exchange membrane, that having sulphonic acid gp., carboxylic acid gp., sulphamic acid gp. or their alkali metal salt gp. in its major chain or side chain is used. Partic. that having sulphonic acid gp. in the major chain obtd. by treating EVA copolymer with fuming H_2SO_4 is used and that having proton-form is superior to that having alkali metal salt-form in sepg. velocity and sepg. efficiency. The membrane having thickness 5-50 (10 20) μ is used.

Fructose is easily sepd. from glucose with high sepg. velocity and high sepg. efficiency by diffuse-dialysing thei mixed soln. using thin ion exchange membrane. 13.1.78 as 001946 (3pp5)

KAWA- D17 27553A/15 =J7 9022-962
Improvement of fruit sugar deliquescence - including pre-coating the particles with coating agent e.g. cane sugar or gelatin
KAWAZU SANGYO KK 09.08.76-JA-094701
*(10.08.79) *J53021-113 C07h-03/02*

Deliquescence of fruit sugar is improved by moulding the fruit sugar crystals having volatile substance content 5-30% relative humidity 30-60% to produce fruit sugar particles having water content 0.1-2.0%. The particles are then precoated with coating agent e.g. cane sugar or gelatin moulded into fruit sugar blocks, and the blocks are then sugar coated to tender the grape sugar nondeliquescent. The decrease of water content of fruit sugar can be controlled and continuous treatment can be conducted when moulding is conducted at relative humidity 30-60%.

At humidity < 30% decrease of water content of fruit sugar occurs. At humidity > 60% fruit sugar crystals become deliquescent, the extrusion-moulding operation is difficult. Pref. relative humidity is 40-50%. The fruit sugar moulded to particle form or granule form is dried to water content 0.1-2.0%. Pre-coating treatment is conducted using a coating agent e.g. cane sugar or gelatin-like substance. The pre-coated fruit sugar particles are tabletted to obtain the fruit sugar blocks and these are coated with can sugar.

Fruit blocks show improved deliquescence compared

to those obtd. by tabletting the fruit sugar particles without pre-coating, and also show improved shelf life.
9. 8. 76 as 094701 C07h-3/02 (10. 8. 79) KAWAZU SANGYO KK (3pp) (J53021113)

DAIN- D17 89640R/48 =NL-161-166
Fatty acid esters of saccharose
DAI-NIPPON SUGAR MF 29.05.69-US-829131
*E13 (15.08.79) *NL7006-775 +C07h-13/04*

Saccharose esters of(2-22C) aliphatic carboxylic acids (I) are prepd. by re-esterification at increased temp. and reduced pressure of esters of such carboxylic acids with saccharose in the presence of a Na- or K-salt of an (8-22C) opt. satd. carboxylic acid or a Li-salt of an (8-22C) unsatd. carboxylic acid at 1-40 wt % of the saccharose used. The alkali metal salt should contain no free alkalimetal hydroxide. Re-esterification at reduced pressure at 170-190°C after the saccharose has been melted by heating in a period < 20 min.

The process uses no solvents such as DMF or propyleneglycol. The reaction time is short without decolourisation of the product. 11. 5. 70 as 006775 (6pp279)

PROT= ★ D17 66033B/36 ★SU -635-132
Prodn. of sugar soln. from cellolignin - using two/stage hydrolysis with dilute aq. sulphuric acid at specified temp., to increase yield
PROTEIN BIOSYNTH RE 26.07.77-SU-511467
(30.11.78) C13k-01/02

Cellolignin, obtd. from cotton husks, etc. is hydrolysed with aq. sulphuric acid followed by the sepn. of lignin from hydrolysate and the sepn. of the sugar by washing with water to give sugar soln.

In order to increase the yield of sugar and to reduce the process time, the hydrolysis of cellolignin is conducted in two stages. In the first stage, the cellolignin is hydrolysed for 0.5-1.5 hrs. under percolation, and in the second stage it is hydrolysed in stationary condition for 0.25-1 hr. The resulting hydrolysate is then cooled to 130-140°C. The lignin is sepd. and washed with water at 30-100°C outside the zone of the hydrolysis, to prevent its decompsn.

The method increases the yield of sugar by 20-30%, reduces the mfg. cost and gives a high quality prod. Klimova Z.K., Belenkii S.I., Bul. 44/30.11.78 26.7.77 as 511467 (2pp938)

KEMI- ★ D17 66167B/36 ★SW 7811-162
Xylan, xylose and xylitol prodn. - by treating opt. bleached hardwood pulp with alkaline soln.
KEMI OY 28.10.77-SF-003217
E17 F09 (E13) (05.06.79) C08b-37 C08o-37

CORP D17 30493X/17 =US 4165-240
Heavy metal ions removal from dextrose soln. - improves efficiency of subsequent enzymatic isomerisation to laevulose (BE050476)
CPC INTERNATIONAL INC 04.10.74-JA-113998
*E13 J01 (21.08.79) *DT2544-363 C13k-01/08*

A starch hydrolysate is prepd. contg. < 5 ppm of total heavy metal and contg. < 99% dextrose. The prepn. comprises treating a dextrose-contg. soln. with a chelating resin capable of removing heavy metals.

After treatment with the chelating agent, > a part of the dextrose is isomerised to levulose in the presence of a dextrose isomerase enzyme prepn. Chelating resins such as Dowex A-1 (RTM) may be produced by the addition of imino diacetate to styrenedivinyl benzene polymer. The hydrolysate is used to produce a greater amt. of levulose from a dextrose-contg. solns. Dextrose-contg. solns. used as the feedstock are either crystalline dextrose in water or a starch hydrolysate syrup (starch saccharizate) of high dextrose content contg. impurities such as ash, colour bodies, cations, etc. 21.4.78 as 898585 C. i. p. 4100025 (+30. 9. 75-US-618090) (6pp931)

SeeAlso

D13 J5 4095745 D16 GB 1552032 D22 J5 4095722

D18: SKINS; HIDES; LEATHER; TOBACCO

CIGA ★ D18 64740B/36 ★BE -875-736
Cigarette filter additives carried on preimpregnated threads - to facilitate use of different additives sequentially
CIGARETTE COMPONENT LTD 21.04.78-GB-015957
F07 P15 (16.08.79) A24c B01d

Aromatic agent is added to cigarette filters being mfd. continuously as a cylindrical combination as a cylindrical combination of absorbent (cellulose acetate) filament by preimpregnating an individual thread or tape with the aromatic agent and then combining the impregnated carrier with those threads/tapes used for making the filter.

Used for incorporating additives to modify the taste or aroma of the cigarette fitted with filters including those with filters made from thermoplastic filamens as described in GB 1169932. Use of separately impregnated carriers makes it easier to change continuous filter prodn. from use of one reagent to another without much waste and without contamination/cleaning of equipment upstream from the final stages of filter mfr. (cf. use of bulk impregnated filter materials). 20. 4. 79 as 875736 (23pp515)

CALG D18 44103W/26 =DS 2460-650
Tobacco smoke filter material for removal of hydrogen cyanide - comprising activated carbon impregnated with cuprous chloride
CALGON CORP 21.12.73-US-427201
*P15 +R16 (30.08.79) *US3889-691 A24b-15/02*

Tobacco smoke -filter material (I), which enables HCN to be removed from tobacco smoke contains granulated active carbon (II) impregnated with 0.5-15 wt. % of CuCl. Pref. (II) has a particle size of 4.76 to 0.42 (esp. 1.68 to 0.42) mm

(I) can be added to cigarette filters or cigarette- and/or cigar holders, or to the pipe stem. 20. 12. 74 as 460650 (3pp481)

RTMN D18 83274Y/47 =DS 2719-793
Fluid application to absorbent material - keeping strip speed constant by pickups controlling drive and brake motors and applicator pump (NL 8.11.77)
ROTHMANS PALL MALL LTD 04.05.76-CA-251800
*E15 P15 P42 Q36 +Q34 (30.08.79) *DT2719-793 B05c-01/04*

A solution of menthol in alcohol is applied to a continuous roll or absorbent paper backed by a layer of foil. The paper is then used to form cigarettes and the menthol permeates into the tobacco. The menthol solution is applied by means of an applicator head fed by a metering pump, the head being stationed above a continuously fed band of the wrapping paper. The paper is wound from one spool onto another. Intermmediate rollers coupled to a braking device and to a rotational speed counter accurately control the band tension and measure the speed at which the paper passes the applicator head. The meter pump is controlled so that the output of fluid is proportional to the paper throughput rate.

The mechanism enables the menthol to be accurately applied and evenly distributed so that the end product is evenly permeated with menthol. 3. 5. 77 as 719793 (9pp1370)

ULLR/ ★ D18 64844B/36 ★DT 2808-076
Folding machine for profiles esp. of leather - presses quickly through work-table slot to ejector between folding clamps
ULLRICH W 24.02.78-DT-808076
(30.08.79) C14b-11

Patterns cut out from leather are folded mechanically into one or more permanent creases, by pressing the profiled section along the selected folding lines. The machine has a flat worktable with a folding slot, limited by folding edges on both sides. Above the slot there is a holding down plate which can be lowered through the slot, and below, there is an ejector in line with the holding down tool, which can be lifted to the surface of the slot. In addn. there are beneath the slot, folding cheeks which can be moved parallel to the worktable across the vertical plane through the centre line of the slot, into contact with each other.

The motions of the holding down tool, the ejector and the folding cheeks are synchronised in such a way that a pattern can be clamped between holding down tool and ejector. The two, with the pattern of leather can then be drawn into the range of the folding cheeks, and removed from the pattern, before the cheeks come together to make the folding line desired.

Enables all kinds of cut out sections for purses, briefcases, etc. to be folded cheaply and quickly without it being necessary to provide expensive tools. 24.2.78 as 808076 (16pp1045)

LUTH/ D18 81255X/44 =GB 1550-385
Twice tanned leather for upholstering furniture and cushions - is over 3mm thick for novel fold effects, original texture and appearance
LUTHY E 11.06.75-CH-007577
*(15.08.79) *BE-842-732 C14c-03*

An upholstered article has a covering of tanned and post-tanned leather free of contaminant-excluding protective finish and having a loose-fibrous outer grain side and below this a grown underlayer ≥3 mm. thick.

The leather is pref. 4-5 mm. thick and has been dyed and evened-out by splitting. The leather retains a lively streaking or graining and completely natural handle while being soft and pliable. 8.6.76 as 023641 (5pp1358)

KSPO= ★ D18 66151B/36 ★SU -635-957
Tobacco leaf drying frame - has concentric circles of parallel needles between flat base and cover for stacking, to give higher packing density
KISH POLY 18.03.77-SU-464442
P15 (15.12.78) A24b-01/02

The frame for drying tobacco leaves in a chamber has parallel needles on a holder and a cover. To increase packing density and improve drying conditions the holder and cover are flat rings and the needles are disposed on concentric circles.

Freshly picked and sorted leaves are placed in the frame, then frames are stacked to leave central drying air supply channels with perforated sides and closed to the stack top by a plug. The moist air exiting from the stack sides passes through a suction main to a heat-exchanger and back through a circulation fan. The arrangement provides a concentrated and directed air supply to the leaves to reduce drying time and doubles chamber packing density.

Gutsu A.I., Sazhin F.M., Bul. 45/5.12.78 18.3.77 as 464442(3pp1358)

GORB/ ★ D18 66152B/36 ★SU -635-958
Tobacco leaf threading machine for needle box - has leaf support vertically reciprocable and with spring-loaded pivotable plates
GORB G D 01.03.77-SU-457440
P15 (15.12.78) A24b-01/06

Appts. with increased throughput comprises a vertically reciprocable leaf support consisting of a row of spring-loaded plates pivotable relative to the horizontal axis and secured to an inverted U-shaped spring-loaded frame which is horizontally displaceable.

Above and parallel to the plates are two drive drums spaced from one another by a distance not exceeding half the length of the box to be filled.

Gorb G.D., Bul. 45/5.12.78 1.3.77 as 457440 (3pp1358)

TAMG D18 36312Y/21 =US 4164-948
Artificial tobacco mfr. - by extrusion of paste of finely divided vegetable particles
TAMAG BASEL AG 23.01.76-LU-074233
*P15 (21.08.79) *BE-850-578 A24b-03/14*

Artificial tobacco is mfd. by mixing plant material and additives to produce a homogeneous mix. of 20 to 50% by wt. moisture, kneading the mix at a pressure of 50 to 150 atmospheres and extruding through a die to form a strand, dividing the strand into equal length sections each contg. 0.1 to 2 gms. of the artificial tobacco, and immediately rolling the sections to produce artificial tobacco strips of 8 to 100 cm^2 surface area.

Rolling is effected between two rollers rotating at different circumferential speeds. The strand sections are pref. cut by a blade which intermittently passes across the die opening. 24.1.77 as 762129 (11pp1376)

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

ATR D21 69496U/46 =DS 2319-715
ental cements - contg. polycarboxylic acid solns. with chelating gents to accelerate setting
NATIONAL RES DEV CORP 18.04.73-DT-319715 (18.04.72-GB-017880)
*A96 (30.08.79) *DT2319-715 C08k-05/09 +C08j-03/24 C08k-03/20 C08l-33/02 C08l-35*

elf curing compsns, consisting of a homo-or copolymer f a mono- or polycarboxylic acid of mol. wt. 1, 500-150, 000 nd an inorganic ion donor, are cured while being moul- ed in presence of a water soluble chelating agent, diff- rent to the polymer, as curing agent.

The mixt. pref. consists of 3-50 wt. % of the polymer, 5-85 wt. % of the ion donor and 0. 01-10 wt. % of the chela -ting agent. The chelating agent is pref. tartaric or citric cid. A metal oxide powder, a powdered oxide melt, an xide glass powder or an Al-fluorosilicate glass powder s pref. used as the ion donor.

The compsns. are used as dental cement. They cure more rapidly and better than known cements. They can be used to fill holes or cracks in teeth well as for repair- ing broken or splintered bones. 18. 4. 73 as 319715 (4pp260)

HENK D21 72703A/41 =DS 2714-954
Employing water-insol. aluminosilicate particles in shampoo - to retard re-greasing of the hair
HENKEL KG AUF AKTIEN 02.04.77-DT-714954
*E33 +P11 (30.08.79) *BE-865-564 A61k-07/06 C11d-03/12*

Finely-divided H_2O-insol. alkali Al silicates (I) of formula $(Cat_{2/n} O)_x . Al_2O_3, (SiO_2)_y$ in which Cat is an alkali metal ion, pref. Na ion, x is a number from 0. 7-1. 5, y is a number from 0. 8-6 (pref. 1. 3-4), having a particle size of 1-12 (pref. 2-8)u, and having a Ca-binding power of 100-200 mg. CaO/g. of anhydrous active cpd, are used in hair-cleaning agents (II) to reduce after-greasing, (I) are used in amts. of 2-30 (pref. 5-25) wt, %, based on total agent.

Pref. (II) also contain 4-30 (pref. 5-20)wt. % of wash-active cpds. as anionic, nonionic or amphoteric tensiles, and opt. 0. 2-1 wt. % cationic tensides. 2. 4. 77 as 714954 (9pp481)

LOGA- D21 60235B/33 =DS 2831-341
Non-foaming emollient for shaving - contg. silicone fluids, isopropyl myristate and azulene
LOGAN SRL 27.06.78-IT-025022 (06.02.78-IT-020036)
*A96 E17 (A26) (30.08.79) *GB2013-492 A61k-07/15*

Hair is shaved using a softening agent comprising (a) silicones (b) 20-30% isopropyl-myristine and (c) 0. 05-50% azulene. The softening agent is added dropwise and uniformly to the dry blade which is then used to shaved premoistened skin.

The silicones comprise at least two liquid silicones with very different viscosities. The viscosities are between 5 and 5000 cst and the viscosity of the mixt. is 110 cs ± 10%. The agent is effective and cheap. 17. 7. 78 as 831341 (4pp068)

BEIE ★ D21 64772B/36 ★DS 2901-389
Continuous extraction of glycerine and impurities from raw soap - by feeding it at bottom of column extractor in contra-flow with electrolytes
BEIERSDORF AG 15.01.79-DT-901389
(30.08.79) C11d-13

Continuous extraction is carried out by feeding raw soap to the bottom of a column extractor, feeding electrolytes in contra-flow from top to bottom with concn. progressively reduced in the upward direction and mixing them with the coarse soap. Mixture is treated with an emulsifying electrolyte in an emulsifying stage and then discharged.

Toilet sops of high quality can be produced from low quality fats. Emulsification takes place between rotary discs forming the single rotary part of the appts. which is simple and reliable in operation. Phase ratio between soap and lye can be selected such that glycerine concn. at the bottom can be ≥14%. 15. 1. 79 as 901389 (5pp536)

COOP- D21 35161B/18 =EP --3-855
Tooth paste for controlling tooth brushing time - contg. citrate-citric acid buffer, and chlorophenol red giving colour change after predetermined time
COOPER SA 16.02.78-CH-001690
*A96 R16 (05.09.79) *US4150-106 A61k-07/16*
D/S: E(BE, DT, FR, GB, IT, LU, NL, SW).

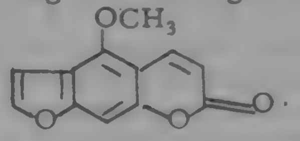
Toothpaste contains a 0.07-0.35 M citrate-citric acid buffer of pH 4-5.5 at 10-50% and chlorophenol red (I) at 0.02-0.1%. The components react when the paste is used causing a colour change after a pre-determined brushing time.

A pref. formulation comprises ≯ 3.5% mixt. of synthetic polymers (carboxypolymethylenes) and modified celluloses (Na carraghenate); 8-25% silicic acid; 1-6% SiO_2; 1.5-3% Na dodecylhydrogensulphate; 3-4% propanediol; 20-60% sorbitol; 0.1-0.5% p-hydroxybenzoic esters; 0.02-0.1% (I); aromatising agents about 1.5%; food dyes (esp. Ponceau red) 0.01-0.04%; buffer 10-50%; water to make 100%.

(I) changes from yellow in the paste to purple at the pH of the saliva so indicates clearly that the teeth have been brushed for a sufficient time (1.5-2 min.). (I) is completely nontoxic and non-carcinogenic and any colour in the mouth is removed simply by rinsing.
7.2.79 as 200064 (10pp1251).
(F) ISR: DT1767662; GB--29565; FR-902143; 1 Journal Reference.

THOR/ ★ D21 65034B/36 ★FR 2409-751
Sun tan compsn. giving rapid bronzing - contg. 5-methoxy psoralen, lanolin, and UV filter cpd.
THOREL J N 29.11.77-FR-035828
E13 (27.07.79) A61k-07/42

The cosmetic compsn. contains a photodynamic amt. of the cpd of formula (I) below dissolved in lanolin and ≥ 1 UV filtering substance dissolved in a mineral oil. The compsn. is prepd by dissolving (I) in lanolin at 42-44°C successively using increasing amts. of lanolin. The UV filtering



(I)

substance is dissolved in the mineral oil and the two are mixed with the addn. of nutrients such as vaseline to obtain a homogenous cream. The compsn. gives a rapid bronzing

The compsn is used for protecting and accelerating the pigmentation of the skin. (I) is designed to penetrate to the level of the melanocytes of the derm and the protective agent is designed to remain on the surface of the skin. 29. 11. 77 as 035828(12pp597).

KANE ★ D21 65092B/36 ★GB 2014-852
Lipstick having core and sheath - with different compsns. disposed concentrically
KANEBO KK 23.02.78-JA-020150
A96 E17 (05.09.79) A61k-07/02

A core and sheath-type lipstick has a core of a compsn. (A) contg. 53-85 wt.% of a low-viscosity oily ingredient with a viscosity < 80 centipoises at 36°C. and 15-47 wt.% of a waxy ingredient which is solid at 36°C.; and a sheath compsn. (B) contg. 40-90 wt.% of a viscous oil ingredient with a viscosity of ≥200 centipoises at 36°C. and 10-60 wt.% of a waxy ingredient. Compsn. (A) pref. also contains

tains a viscous oily ingredient (≤ 32 wt.%) and compsn. (B) a low-viscosity oil ingredient (≤ 30 wt.%).

The lipstick can be coloured or colourless (lip gloss). The lipstick is not slippery, causes no tacky, resistant or disagreeable sensation; spreads well with a soft feel and light touch, adheres evenly to the lips, and provides good gloss, clarity, hue and colour development. 22.2.79 as 006241 (17pp1355)

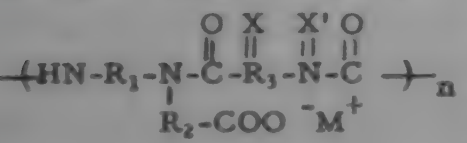
DAUC ★ D21 65613B/36 ★J5 4095-737
Stabilising carpronium chloride against hydrolysis - by adding malic acid buffer, for use in cosmetics, hair tonics, skin creams etc.
DAIICHI PHARM KK 22.02.77-JA-018347
E16 (28.07.79) A61k-07

Carpronium chloride is stabilised against hydrolysis by adding malic acid buffer. Carpronium chloride has local blood vessel vasodilator action and is used for lotion cosmetics, cream, stick, aerosol, hair tonic, shampoos, and skin creams.

In an example, 50% ethanol (420 l.) was placed in a dissolving tank, dl-malic acid (3.35 kg.), sodium hydroxide (1.20 kg.), carpronium chloride (25.0 kg.), propylene glycol (25.0 kg.), perfume (suitable amt.), dyestuff (suitable amt.) were dissolved and 50% ethanol was added to 500 l. The resultant nitruent hair lotion was preserved at room temp. for three years and residual ratio of carpronium chloride was >90%. 22.2.77 as 018347 (2pp69)

HATS D21 63800A/36 =J7 9023-720
Carboxylate polyurea electrolyte - prepd. by reacting amino-aminocarboxylic acid salt with di:isocyanate and opt. water and or di:amine
NHK SPRING KK 25.02.77-JA-019981
*A26 C03 G02 (G03) (15.08.79) *DT2807-787 C08g-18/32*

Urea cpds. contg. carboxylate gp. are of formula (I)



$$-\!\!\left(HN-R_1-\underset{\underset{\displaystyle R_2-COO^{-}M^{+}}{|}}{N}-\overset{\overset{O}{\|}}{C}\overset{\overset{X}{\|}}{-}R_3-\overset{\overset{X'}{\|}}{N}-\overset{\overset{O}{\|}}{C}\right)_n$$

(I)

(where R_1 is a 2-17C divalent hydrocarbon a divalent polymer group having average mol. wt. of 10,000, R_2 is an opt. substd. 2C alkylene which does not react with isocyanate or amino gps. R_3 is a 4-20C divalent hydrocarbon or a divalent polyether or polyester gp. having an average mo. wt. of 10.000, X and X' are each H or $-(OCNH)_m-$ (where m is > 1) integer, and n is ≥ 1

(I) is a polyelectrolyte of excellent water-solubility, water absorption and anti-static property. 25. 2. 77 as 019981 C08g-18/32 (15. 8. 79) NHK SPRING KK (30pp) (J53127597)

DURO D21 40367F/00 =NL-161-058
Alcohol-colloidal sio2 toothpaste
FA DURODONT S 29.07.66-DT-D50712
*B05 E37 (15.08.79) *FM---7-175 A61k-07/16*

Storage stable, foaming toothpaste is based on an alcohol contg. gel, which can be thickened to pasty consistency using silica gel. The toothpaste has a water-content of > 10 wt % with > 5 wt % peroxides or persalts and/or (bi)carbonates, and 2.5-10 wt % acid-reacting acid salts of consumable (in)organic acids. The paste has an initial pH of 5.5-6.5. Pref. malic acid salts are used. 10.7.67 as 009563 (8pp913)

SCHZ ★ D21 66154B/36 ★SW 7711-735
Oral hygiene compsn. contg. mutanase - to break down water-insoluble mutans in coatings on natural teeth and false teeth
SCHWEIZER FERMENT AG 18.10.77-SW-011735
(D16) (05.06.79) A61k-07/28

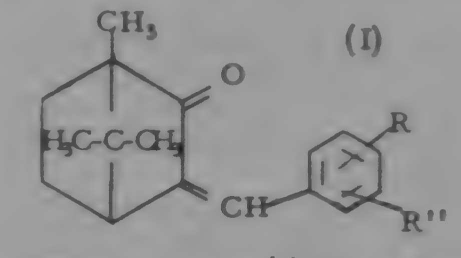
AMWA- ★ D21 66251B/36 ★US 4165-293
Solid transparent soap bars - contg. soap, anionic or amphoteric surfactant, and di:hydric alcohol
AMWAY CORP 31.07.78-US-929548 (29.06.76-US-700788)
E19 (D24 D25) (21.08.79) C11d-09/26 C11d-10/04 C11d-17

Transparent soap bars contain 25-55 wt. % sodium soap, based on tallow or its fatty acids, the content of which is ≥ 25%, 10-40 wt. % of anionic and/or amphoteric surfactant, 15-65 wt. % of a dihydric alcohol contg. 2-6C and no monohydric short chain alcohol.

The bars have a high soap content, low water content and have a long life, with little shrinkage in storage. The compsn. does not require milling, plodding or refining and can be poured directly into bar moulds. 31.7.78 as 929548 (+16.5.77-US-797048) (8pp955)

OREA D21 61833V/35 =US 4165-3
Sulphonated benzylidene camphor derivs. - acting as protecti agents against actinic rays in cosmetic compsns. including skin o hair-care compsns
L'OREAL SA 19.02.73-LU-067061
*E14 P34 (21.08.79) *DT2407-733 A61k-07/44 C07c-143/24*

(2-Oxo-3-bornylidene methyl)-benzene sulphonates of fo mula (I) and their derivs. are prepd., where R is H, Cl, or 1-4C alkyl, R'' is SO_3M where M is H, an organic am onium gp. or a metal, R'' being a substit. at the para- o meta-positions w.r.t. the bornylidene ring.



(I)

Pref. in the formula, M is H, Na, K or Ca, or tris (hydroxy-2-ethyl) ammonium, and R is H, Me or Cl. The 1-methy gp. of the bornylidene r may be substd., by an gp. which is H or SO_3M.

The compsn. (I) is used as the antisolar agent in an anti-solar compsn., being present in amt. of 0.5-10 wt. w.r.t. total compsn. 14.8.74 as 497469 (+7.2.74-US-440570) (9pp931)

COLG ★ D21 66290B/36 ★US 4165-36
Silicate based dental prophylactic paste - which is initially lo viscosity, and gels in container
COLGATE PALMOLIVE CO 26.01.78-US-872841
B05 (21.08.79) A61k-07/16

A non-aqueous dental prophylaxis paste comprises 40-60 wt. % abrasive, 5-10 wt. % of a soluble silicate, 2-5 wt. % of an acid forming agent which is an acid anhydride, este or amide, and a humectant.

The compsn. has a low viscosity initially, and can be placed in containers easily under low pressure, but subsequently gels. It is then of high viscosity, non-spattering non-creamy, non-thinning, and free of air bubbles. 26.1.78 as 872841 (5pp955)

GENA D21 00430B/01 #US 4165-36
Hair setting and conditioning compsn. - contg. a soln. of copolymer of vinyl pyrrolidone and a di:alkyl-aminoalky (meth)acrylate
GAF CORP 10.06.77-US-805397 (10.06.77-US-805396)
*A96 (A14) (21.08.79) *GB2000-026 A61k-07/06*

Hair setting and conditioning compsn. includes (by wt.) (I 0.1-35% film forming copolymer having a mol. wt. of 15000-1.5 x 10^6 and contg. (A) 95-45 mol. % units derived from vinylpyrrolidone, (B) 5-50 mole% units derived fron a monomer of formula: $CH_2=CR'-COOR^2-NR^3R^4$ (where R^1 is H or CH_3; R^2 is 1-20C alkylene and R^3 and R^4 are indep ently 1-4C alkyl) and (C) 0-50 mole% units derived from ≥ 1 ethylenically unsatd. isopolymerisable monomer diff erent from (A) and (B).

Compsn. also contains (II) 0.05-10% of ≥ 1 cosmetic ally acceptable organic surfactant, thickener, plasticiser and sequestrant in (III) a solvent base selected from wate monohydric 2-3C aliphatic alcohol, 1,1,1-trichloroethane methylene chloride and their mixts.

Compsn. has improved curl retention under high humidity conditions. 10.6.77 as 805396 (7pp393)

COLG ★ D21 66291B/36 ★US 4165-36
Non-spattering dental prophylactic paste - contg. abrasive humectant and gelatin, with controlled viscosity
COLGATE PALMOLIVE CO 11.12.78-US-968716 (01.07.77-US 812030)
B05 (21.08.79) A61k-07/18

The paste comprises 30-80 (40-60) wt. % abrasive (I); a humectant (II) and 0.01-10 (1-5) wt. % gelatin (III). The compsn. has viscosity 1200-150000 cP at 30-40 °C. Pref. (I) is a mineral, esp. pumice and (II) is a glycol or glycerol. The compsn. may additionally include (a) a F-cpd. (esp. $(NH_4)_2SiF_6$) to provide 0.1-5% F; 1-10 wt. % alkali metal silicate or silica gel; 0.1-5 wt. % thickener, and for a non-aq. paste, 1-10 wt. % acid anhydride, esp. succ nic anhydride.

Used for periodic cleaning of the teeth by dentists. Use of (III) in place of agar-agar improves flowability through a nozzle under low pressure. 11.12.78 as 968716 C.i.p. 4143126 (cf. 21974B/11) (5pp1251)

KAOS D21 22158Y/13 =US 4165-369

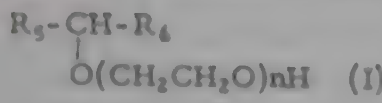
Liq. hair rinsing compsn. giving softness and body - contains an ethoxylated sec. alcohol and a quat. ammonium salt

KAO SOAP KK 11.09.75-JA-110301

*E19 (21.08.79) *DT2639-467 A61k-07/08*

A liq. hair rinse compsn. is prepd. which comprises 0.1-10 wt.% of ≥1 quat. ammonium salt $[R_1R_2R_3R_4N]^+X^-$, such that each of R_1, R_2, R_3 and R_4 is alkyl, hydroxyalkyl or benzyl such that 1-2 of the R gps. are 8-20C alkyl or hydroxyalkyl, and the remainder are 1-3C alkyl or hydroxyalkyl or benzyl and X is halide, methylsulphate or ethylsulphate.

The compsn. further contains 0.1-10 wt.% of a synthetic sec. alcohol of formula (I), where n is 0-7, and the R_5-CH-R_6 moiety is 12-18C alkyl, being prep. by oxidising normal paraffin or its ethoxylate. The compsn. further contains an amt. of a water-miscible organic solvent effective to dissolve the first two components, the balance being water.



$$R_5\text{-}\underset{\displaystyle O(CH_2CH_2O)_nH}{CH}\text{-}R_6 \quad (I)$$

The compsn. possesses an excellent rinsing effect and imparts smoothness and suppleness to human hair. 30.3.78 as 891755 (+12.8.76-US-713650) (4pp931)

DIAN- ★ D21 66298B/36 ★US 4165-385

Water-in-oil skin moistening emulsion - contg. vegetable oil, cocoa butter, mineral oil, fatty acid ester wax, esp. beeswax and water

DIANIS CREATIONS 16.07.75-US-596541 (29.05.73-US-364868)

A96 (21.08.79) A61k-47

A water-in-oil cosmetic emulsion contains 5-25 wt.% purified cocoa butter, 30-50 wt.% vegetable oil, 3-15 wt.% fatty acid ester wax, 3-15 wt.% mineral oil, and 5-25 wt.% water. Compsn. pref. also contains ≮100 parts of isopropyl myristate per 100 pts. of cocoa butter.

The compsn. is useful for moisturising and softening the skin. Although it contains cocoa butter and vegetable oil, it is not prone to rancidity on storage. 16.7.75 as 596541 (6pp955)

D22: BANDAGES; DRESSINGS

TEEP ★ D22 64701B/36 ★BE-874-220

Tough, artificial casings of fibrous structure - prepd. from paper tube impregnated with viscose as gas flows in countercurrent

TEE PAK INC 21.04.78-US-898750

A97 (A11) (16.08.79) A22c C08j

During the downwards motion along an arbor, of a tube of fibrous material from which a fibrous synthetic casing for sausage mfr., is to be produced, gas feed outlets direct an upwards flow at a slight positive pressure through the tube. The fibrous tube is fed along the arbor, and means are provided for impregnating the tube with viscose as it moves, and there are means of regenerating the cellulose from the viscose impregnating the tube. The gas feeder consists of a hollow ring with a large number of openings positioned closely together.

Process prevents the accumulation of coagulation material between the arbor and the synthetic casing during its impregnation with viscose, which causes tearing. The casing produced is strong and tough and very suitable for Bologna sausage. Viscose spots are prevented and the yield of casing is ~90%. 16.2.79 as 874220 (13pp1014)(F1)

SVFL ★ D22 64720B/36 ★BE-875-639

Disinfection of hospital equipment with hot damp air - for very short duration, e.g. two seconds at about 500 degrees C, avoiding need for long cooling periods

SVENSKA FLAKTFAB AB 19.04.78-SW-004429

P34 (16.08.79) A61l

The equipment is first cleaned and washed in the normal way iand then subjected to a brief thermal shock. This takes the form of a blast of hot, damp air at 350-800°C, pref. ≮500°C. The installation pref. comprises a basket to contain the items of equipment to be disinfected and a fan to circulate air through an electric heater and on to the basket. TCirculated air is pref. homidified to a controlled extend by water spray(s).

The circulated air is pref. blown through the basket container at a rate equiv. to ≮5 air changes per second. Air spped is pref. 30-50 m/sec.

The disinfection treatment pref. comprises subjecting the equipment to a blast of air at 500-600°C for a very short duration, e.g. 2 seconds.

Process is used for disinfection of utensils and other hospital equipment to destroy bacteria and ensure that infection will not be transmitted between patients. Effective sterilisation is obtd. much more quickly than at lower temps., and without a subsequent, long, cooling period before the equipment can be handled. Only the surface of the equipment is heated to any extent. 17.4.79 as 875639 (16pp448)

RAPP/ D22 07491V/05 =DS 2233-474

Ambulance air disinfection - by UV radiators and combustion jacket around exhaust air channel

RAPPOLD E 07.07.72-DT-233474 (15.10.71-DT-151434)

*P33 P34 +Q12 (30.08.79) *DT2233-474 A61g-03 A61l-09*

An ambulance contains an enclosed compartment for transporting patients sepd. from the driver's compartment and ventilated by an air intake germ-filter and an exhaust fan which maintains the compartment under a small regnative gauge pressure. The exhaust air passed through a disinfection zone before being discharged to atmos. the zone incorporating a burner which heats the air to such a temp. that the sickness germs are killed. In order that the disinfection zone is able to function independently of the air throughput from the patient's compartment, the zone comprises an inner tube through which the exhaust gases pass and a jacket in which the combustion takes place. 7.7.72 as 233474 Add to 2151434 (4pp1370)

FMCC D22 12723W/08 =DS 2436-589

Sodium dichloro isocyanurate bactericide tablets - using the dihydrate for easier prepn and greater storage stability

FMC CORP 06.08.73-US-385907

*E13 P34 +P33 (30.08.79) *BE-818-512 C01b-07/02 C02b-01/36*

Chlorine-releasing tablets are made by tabletting sodium dichloroisocyanurate dihydrate at a compression pressure of 140-700 (350) kg/cm². The tablets dissolve quickly and are form stable to moisture and storage. They may be used as bactericides e.g. in swimming baths. 30.7.74 as 436589 (5pp068)

HOST D22 19615W/12 =DS 2441-627

Protective gel for colostomy appliances - contg. film-former and gel-former

HOLLISTER INC 04.09.73-US-394061

*A96 P32 (30.08.79) *DT2441-627 A61k-07/40*

Skin-protecting gel (I) contains 25-90 wt.% isopropanol, 0.1-5 wt.% sorbic acid, butyl-p-hydroxybenzoate and/or methyl-p-hydroxybenzoate, 5-50 wt.% monoisopropyl ester of polyvinylmethyl ether/maleic acid and/or polyvinyl methyl ether and 1.5-5 wt.% hydroxypropyl cellulose and/or modified polyacrylic acid.

(I) can be used with ostomy devices. It protects the

skin from inflammation and yet is not washed away.
30. 8. 74 as 441627 (4pp481)

INPB D22 58203X/31 =DS 2601-928
Growth-inhibiting coatings for surfaces immersed in sea water - comprising cold curing silicone rubber /silicone oil mixts (NL220776)
INT PAINT CO 20.01.75-GB-002291
*A82 C03 G02 +P42 P43 (A26) (30.08.79) *DT2601-928 B05d-05/08 C09d-03/82 C09d-05/16 + B05d-07/16*

Protective coatings which inhibit marine growth on solid surfaces comprises a hardened vulcanised silicone rubber mixed with silicone oil, obtd. by cold hardening a mixt. of igomeric silicone having terminal OH groups, (pref. methylphenylsilicone rubbers), in the presence of silicone oil, (pref. methylphenylsilicone oils, 1-10 wt. %).

Prepn. of these coatings comprises treatment of the surface with a mixt. of oligomeric silicone rubber having terminal OH's, silicone oil, and opt. catalysts, pigments and/or diluents. 20. 1. 76 as 601928 (4pp047)

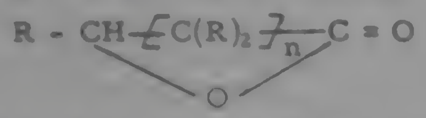
HEES/ ★ D22 64809B/36 ★DT 2807-617
Sterilising beverage bottles - by spraying upturned bottles with sulphurous acid soln. which is filtered and recirculated, and drying with hot air
HEESS K D H 22.02.78-DT-807617
Q33 (30.08.79) B65d-55/10

Beverage bottles are sterilised using the method of dipping in an aq. soln. of sulphur dioxide by removing the residue of the soln. with the aid of compressed sterile air. The amt. of water used is reduced and pollution with acidic water of environment is prevented.

Pref. the blowing with compressed air which is preheated to approx. 35°C is effected with the bottles in their upturned position. In partic. it is pref. to use a filtered sulphurous acid soln. which is sprayed with the aid of a nozzle passed into the bottles, recirculating the soln. and filtering it, and, drying the sterilised bottles interior by removal of residual soln. using a pipe which is introduced into the bottles and which is provided with a blast nozzle. 22.2.78 as 807617 (9pp536)

UNIC ★ D22 64989B/36 ★EP ---3-845
Orthopaedic cast or splint, or bandage for applying cast - comprising thermoplastic copolymer of lactone and acrylate having controlled degree of crosslinking
UNION CARBIDE CORP 24.02.78-US-881138
A96 P32 P34 (A23) (05.09.79) A61f-13/04 A61l-15/07
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

(A) An orthopaedic device, for fixing and immobilising a portion of the human or animal body, comprises a solid polymeric material shaped to the contours of the body. The polymeric material is the prod. of crosslinking a thermoplastic polymer produced by reacting an active-hydrogen-contg. initiator at 25-300°C with a molar excess of a monomer mixt. comprising (A) 90-99.5 (pref. 95-99.5) wt.% of a lactone of formula



$$R-CH-[C(R)_2]_n-C=O$$

(where n is 3-6; ⩾ n + 2 R gps. are H, and any remaining R gps. are 1-10C alkyl) and (B) 0.5-10 (pref. 0.5-5) wt.% of a polyfunctional acrylate monomer.

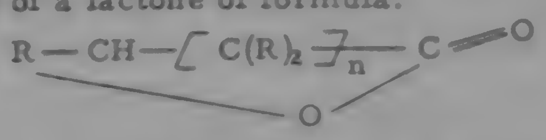
(B) A bandage, suitable for forming an orthopaedic cast, comprises a substrate in the form of a netting, the strands of the netting having on their surfaces a coating of the crosslinked polymer described above.

(C) Methods of producing the bandage and applying it, and a method of applying splints made of the crosslinked polymeric material, are also claimed.

The degree of crosslinking of the polymer can be controlled to provide optimum properties for applying it to the body portion being treated. The polymer does not become fluid on heating, but becomes soft and rubbery; also it can be heated dielectrically, obviating the use of a hot water bath. A rolled bandage of the material can be heated to softening pt. without danger that the layers will irreversibly fuse together on the roll. The cast or splint is rigid, porous and lightweight, and is sufficiently strong to be used in load-bearing applications such as lower leg casts.
23.2.79 as 100553 (46pp914).
(E) ISR: US3692023.

UNIC ★ D22 64990B/36 ★EP ---3-846
Thermoplastic crosslinkable copolymer - produced by reacting lactone and polyfunctional monomer in presence of active hydrogen initiator
UNION CARBIDE CORP 24.02.78-US-880955
A23 (A96) (05.09.79) C08g-63/08
D/S: E(CH, DT, FR, GB, IT, NL, SW, BE).

A thermoplastic crosslinkable copolymer is produced by reacting an active-hydrogen-contg. initiator at 25-300°C with a molar excess of a monomer mixt. comprising (A) 90-99.5 wt.% of a lactone of formula:



$$R-CH-[C(R)_2]_n-C=O$$

(where n is 3-6; ⩾ n + 2 R gps. are H, and any remaining R gps. are 1-10 C alkyl) and (B) 0.5-10 wt.% of a polyfunctional acrylate monomer.

The copolymer can be crosslinked by exposure to ionising or actinic radiation or by free radical peroxide catalysts. The degree of crosslinking can be controlled to produce a material which is thermoplastically processable and displays modified rheological props. which make it more easily processable than the corresponding lactone homopolymer. E.g. the polymer may be crosslinked by ionising radiation to a controlled degree to allow it to be blow-extruded into a film or to be extruded into a sheet. A particular application is in the formation of orthopaedic casts and splints as described more fully in EP---3845.
23.2.79 as 100554 (36pp914).
(E) ISR: FR2326456; DT2500799; GB1443073.

JOHJ D22 43109Y/24 =GB 1551-671
T-Shaped cardiovascular surgical drape with 2 fenestrations - closed by pressure adhesive polymeric films with release sheets
JOHNSON & JOHNSON 03.03.76-US-663900
*P31 +P32 (30.08.79) *US4027-665 A61b-19/06*

A surgical drape is of flexible material and has two windows each of which is covered on the upper surface by a polymeric film. The films are coated on their lower surfaces with pressure sensitive adhesive which are protected before use by a removable cover.

On the upper surface of each film there is a conduit through which suction tubing, or electrical wires can be threaded and held in position. The drape is pref. T-shaped and has a reinforcing panel surrounding the windows.

The drape can be used in cardiovascular surgery.
2.3.77 as 008790 (16pp1376)

RIWO- D22 20233Y/12 =GB 1551-834
Endoscope disinfecting appts. - comprising disinfectant filled U-tube for flexible part insertion and circulating pump for inner channels
RIWOPLAN MEDIZIN 10.09.75-DT-540263
*P34 (05.09.79) *DT2540-263 A61l-03*

Appts. for disinfecting a flexible fibre endoscope comprises a curved tube holding disinfecting liquid and with upwardly directed sides. The tube may be U-shaped or of spiral form, and one side has a closure with a sealable opening for passing through the endoscope.

A circulating pump is pref. connected to the open tube end for drawing the liquid into it and pipes lead to the proximal ends of passages extending through the endoscope. The tube is pref. opaque and of metal or plastics, and a number of tubes may be combined to form a unit. 8.9.76 as 037283 (4pp1358)

ONTO- ★ D22 B/36 ★HU T016-874
Sterilising subassembly for aseptic storage units - with filters and valves in the air line
ONTODEI VALLALAT 28.10.75-HU-000221
(28.08.79) B01d-46

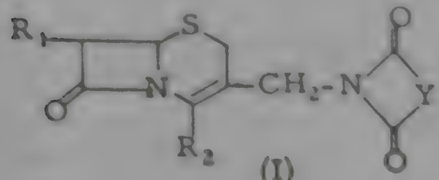
TAKE ★ D22 65150B/36 ★J5 4092-986

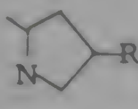
Antibacterial cephalosporin derivs. - used to treat diseases caused by Gram-positive and Gram-negative bacteria, and as disinfectants

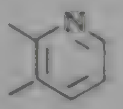
TAKEDA CHEMICAL IND KK 28.12.77-JA-160904

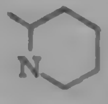
B02 C02 (23.07.79) A61k-31/54 C07d-501/38

Cephalosporin derivs. of formula (I) and salts are new:


(I)


(II)


(III)


(IV)

In the formulae, R_1 is (acylated) amino; R_2 is (esterified) carboxyl; Y is -CH(R_3)-S- (where R_3 is H or alkyl), -C(R_3)$_2$-O-, -CH_2-N(R_3)-, -CH=N-N(R_3)-, a gp. (II) (where R_4 is H or OH); -C(R_5)=CH-NH (where R_5 is H, halogen, pyrrolidinyl or morpholino), a gp. (III), a gp. (IV), -CH_2-O-NH or -CH(NH_3)-CH_2-. Pref. R_1 is amino, R_2 is COOH and Y is CH_3-NH-S- or -CH_2-NH-.

Cpds. have excellent antibacterial power to Gram-positive bacteria, e.g. Staphylococcus aureus and Bacillus subtilis, and Gram-negative bacteria, e.g. Escherichia coli, Proteus vulgaris, Proteus morganii and Klebsiella pneumoniae, and little toxicity. They may be used as a preventive drug or remedy for infectious diseases of humans and animals, or as disinfectants in hospitals, etc. 28.12.77 as 160904 (39pp69)

TOAG ★ D22 65424B/36 ★J5 4094-561

Sealing fumigation appts. - using emulsion of alkyl acrylate resin having low Tg for complete sealing

TOA GOSEI CHEM IND LTD 09.01.78-JA-000540

A93 G04 P14 Q43 (A14) (26.07.79) A01m-13 C09k-03/10 E04b-01/66

A resin emulsion having a Tg ⩽ 0°C. is applied over cracks in the fumigation appts. to effect complete sealing. The resin includes acrylic acid alkyl ester type polymers or copolymers. Solids content of the emulsion is 30 to 70 %. Core material such as cement may be incorporated in the emulsion.

In an example, 90 pts. butyl acrylate, 10 pts. vinyl acetate, 2 pts. sodium dodecylbenzene sulphonate, 2 pts. polyoxyethylene nonyl phenol ether, 0.3 pt. ammonium persulphate, and 100 pts. water are heated at 70°C. for 5 hrs. to give a polymer emulsion of solids content 48%. To the emulsion is added an aq. ammonia soln. to adjust the pH to 7.0. The resultant has a Tg of -46°C. 9.1.78 as 000540 (7pp22)

KURS ★ D22 65427B/36 ★J5 4094-564

Prepn. of polymer for forming bandage like membrane - comprises removing solvent from glycol methacrylate type soln. and crushing obtd. polymer

KURARAY KK 10.01.78-JA-001733

A14 P32 (A96) (26.07.79) A61f-01/24 A61f-13 C08j-03/12

A soln. of glycol methacrylate type polymer is coagulated in an aq. type coagulation soln. to remove the solvent, or is subjected to evapn. to remove the solvent, and then the resulting solvent-free polymer is crushed. The polymer includes hydroxyethyl methacrylate polymer or copolymer with methyl methacrylate, methyl acrylate, methacrylic acid, N-vinyl pyrrolidone, acylamide, etc. The solvent includes DMSO, DMF, (m)ethanol, butanol, ethylene glycol monomethyl ether, etc. After removing the solvent, the polymer is washed with hot water, and dried. Then the polymer is mechanically crushed into 100 mesh pass, pref. 200 mesh pass powder.

Typically, on a skin surface, a plasticiser is applied, and then the resin powder is sprayed over, whereby a bandage like membrane is formed on the skin surface. 10.1.78 as 001733 (4pp22)

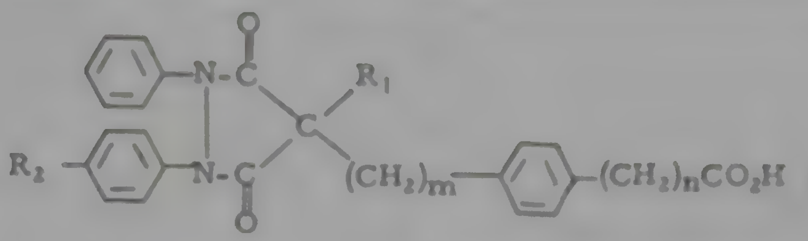
NIRA ★ D22 65531B/36 ★J5 4095-565

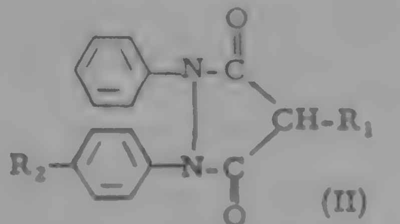
Phenyl-substd. 3,5-di:oxo:pyrazolidine derivs. - useful as antithrombotic agents having good affinity for synthetic polymers

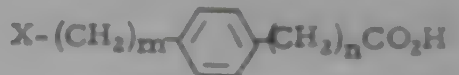
UNITIKA KK 06.01.78-JA-000686

A96 B03 (28.07.79) A61k-31/41 C07d-233/36

Pyrazolidine derivs. of formula (I) are new:


(I)


(II)


(III)

R_1 is (substd.) alkyl; R_2 is H or OH; and m and n are each integers of 0-10. Cpds. (I) are useful as antithrombotic agents. They have affinity for a variety of synthetic polymers such as nylon, polyesters, polyethylene, PVC, etc. Thus they are partic. useful for imparting antithrombotic activity to artificial organs made of such materials.

(I) are prepd. e.g. by treating a pyrazolidine cpd. (II) with NaOH and reacting the resulting alkali metal salt of (II) with a halide (III) (where X is halogen). Reaction is carried out in e.g. water, or ethanol. An example of (I) is 4-butyl-4-(p-carboxybenzyl)-1, 2-diphenyl-3, 5-dioxopyrazolidine. 6.1.78 as 000686 (3pp16)

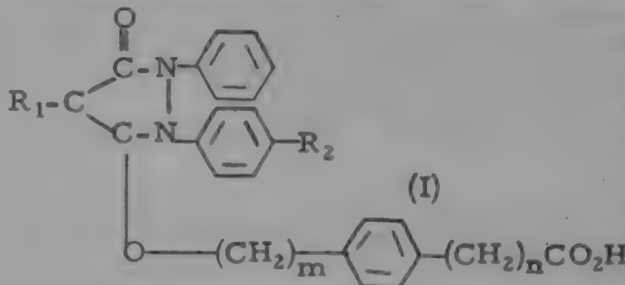
NIRA ★ D22 65532B/36 ★J5 4095-556

Phenyl-substd. pyrazolone derivs. - useful as antithrombotic agents having good affinity for synthetic polymers

UNITIKA KK 06.01.78-JA-000687

A96 B03 (28.07.79) A61k-31/41 C07d-231/34

Pyrazolone derivs. of formula (I) are new:


(I)

R_1 is (substd.) alkyl; R_2 is H or OH; and m and n are each integers of 0-10. Cpds. (I) are useful and antithrombotic agents. They have affinity for a variety of synthetic polymers such as nylon, polyesters, polyethylene, PVC, etc. Thus they are partic. useful for imparting antithrombotic activity to artificial organs made of such materials.

An example of (I) is 5-(p-carboxybenzyloxy)-4-butyl-1, 2-diphenyl-3-pyrazolone. 6.1.78 as 000687 (4pp16)

NIPJ ★ D22 65602B/36 ★J5 4095-722

Poultice compsn. for treating neuralgia, stiff shoulder etc. - contains sodium polyacrylate and xanthan gum

NIPPON JINYAKU KK 10.01.78-JA-000870

A96 (A14 D16 D17) (28.07.79) A61k-09/06

Combination of xanthan gum and sodium polyacrylate improves the mouldability of the poultice substrate, water, retention and stickiness to the skin. Pref. the amt. of sodium polyacrylate is 0.5-15%, w.r.t. total amt. of compsn.

In an example, gelatin was dissolved in hot water at 40-60°C., and zinc oxide added to give a mixt. (I). Sodium polyacrylate and xanthan gum were dispersed and dissolved in glycerine, the resultant soln. heated to 40-60°C., blended with the above mixt. (I) and cooled to 40°C. Methyl salicylate, camphor and menthol as effective components were rapidly blended (so as not to evaporate the components) and the resultant poultice compsn. was spread and rolled uniformly to 5 mm. thickness over a lint cloth. A polyethylene film was adhered over the surface to prepare a poultice. 10.1.78 as 000870 (4pp69)

ASAG ★ D22 65648B/36 ★J5 4095-967

Removing harmful, oxidisable components from gas - by contacting the gas with oxygen-contg. metal complex

ASAHI GLASS KK 13.01.78-JA-001890

J01 (28.07.79) B01d-53/34

Removal of harmful oxidisable components (I) from a gas (II), comprises contacting (II) with an oxygen-contg. complex (III). (III) is pref. a complex having the structural formula M-O-O- (where M is a metal), and examples of (III) are complex of the metals, such as Co, Ni, Cu and Fe, having a ligand of ammonia, amine, polyamine, aminoacid, peptide, diimine, etc. Examples of (I) are phenol, formalin, H_2S, methyl mercaptan, methyl sulphide, methyl disulphide, trimethylamine, styrene, etc. (II) is contacted with a (III)-soln. The concn. of (III) in the soln. is 0.1-40 wt.%.

Process is used to deodorise exhaust gases from faeces and urine-treating plants, sewage purification plants, petroleum chemical plants, casting plants, etc. 13.1.78 as 001890 (5pp42)

TOKE ★ D22 65649B/36 ★J5 4095-968
Deodorising process using ozone - in reactor including thermistor temp. sensors to monitor activity of carbon or metal oxide catalyst
TOKYO SHIBAURA ELEC LTD 13.01.78-JA-001909
E36 J01 (28.07.79) B01d-53/34 B01j-08/02

An odiferous gas produced in sewage farms, sanitation facilities or coating plants, is introduced through a blower into a reactor after it is mixed with ozone produced in a silent electric discharge generator.

The reactor is filled with active carbon or metal oxides and thermistors are disposed in three positions of the reactor to detect the reacting heat. The odiferous gas and the ozone are contacted with the active carbon catalyst and react together. An odourless gas is discharged from the reactor.

The life of the catalyst may be easily confirmed by means of temp. sensors such as thermistors, so that the catalyst may be replaced and reclaimed as required for the dedorisation process to proceed under optimum conditions. 13.1.78 as 001909 (3pp35)

JAPC D22 13117A/07 =J7 9022-790
Malodorous sulphur-contg. cpds. sepn. from waste gas - by scrubbing with alkaline and oxidising with oxygen in the presence of catalysts contg. naphthoquinone(s) or naphtho-hydroquinone(s)
JAPAN CATALYTIC CHE 13.05.74-JA-055350
*E37 (E19) (09.08.79) *J50145-367 +B01d-53/34 B01j-23/16 B01j-31/02 C02c-05/04*

Odoriferous S-contg. cpds. such as H_2S, mercaptans, and sulphides, are removed by maintaining these S-contg. cpds. in alkaline soln. and oxidn. with O_2 in the presence of catalysts contg. naphthoquinones.

In an example a N gas mixt. contg. H_2S 500, MeSH 100, and Me_2S 50 ppm and O 5% was introduced into a column at the bottom at 400 l./hr. while the column was filled with 1 l. alka. soln. (pH 13.0) contg. Na_2CO_3 5 and NaOH 1% and Na naphthohydroquinonesulphonate 1500 and $KMnO_4$ 10 ppm from the top of the column. The H_2S-, Me mercaptan-, dimethyl sulphide-removal efficiency was 100%. 13.5.74 as 055350 B01d-53/34, B01j-23/16, 31/02 C02c-5/05-(9.8.79) JAPAN CATALY CHEM (7pp)(J50145367)

UNIC- D22 76411X/41 =J7 9023-514
Blood absorbing film - of poly-vinyl-alcohol and sodium polyacrylate
UNI-CHARM KK 04.10.74-JA-114478
*A16 P32 (A14) (14.08.79) *J51052-698 A61f-13/18 +C08l-29/04 C08l-33/02*

Water-soluble blood absorbing film is made of PVA of >300 average polymerisation degree and >80 mol. average saponification degree and sodium polyacylate. In an example, 75 wt. % of PVA (average polymerisation degree 1400, average saponification degree 80 mol %). 14% of glycerin, and 1% of a nonionic surface active agent were mixed. The mixture was coated on a Teflon (RTM) sheet to produce a film 0.02 m/m thick.

The blood absorbing film has excellent props., e.g. blood solidifying effect, blood absorbing property, solubility and dispersibility in water. 4.10.74 as 114478 A61f-13/18, C08l-29/04, 33/02 (14.8.79) UNI-CHARM KK (2pp)(J51052698)

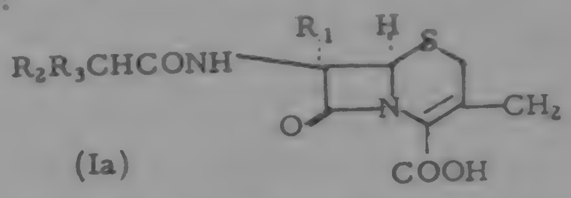
UNIC- D22 38861X/21 =J7 9023-515
Sanitary napkin - including film of polyvinyl alcohol and sodium polyacrylate
UNI CHARM KK 04.10.74-JA-114479
*A96 P32 (A14) (14.08.79) *J51041-294 A61f-13/18*

Sanitary pad or napkin for absorbing menses is produced by covering a water-absorbing element, such as water absorbing paper, with a filter cover element, a blood leakage preventing film being present in desired position of the napkin, the film being made from a composite of polyvinyl alcohol and sodium polyacrylate at an ave. degree of polymerisation of >300 and an ave. degree of saponification of 80 mole%.

The napkin is flushable and has excellent blood-retaining properties. 4.10.74 as 114479 A61f-13/18 (14.8.79) UNI CHARM KK (4pp)(J51041294)

HOFF D22 01980X/02 =SU -635-8
3-(Heterocyclylthio methyl) cephalosporins - prepd. e.g. by reacti
a 3-acetoxymethy cephem with heterocyclic thiol
HOFFMANN-LA ROCHE AG 21.06.74-CH-008537
*B02 (05.12.78) *BE-830-455 A61k-31/54 C07d-501/04*

Cephalosporin derivs. of formula XSY (I) and their salts are hydrates are new (X= desacetoxycephalosporin resid Y = a 6 membered heterocycle which is neither aromati nor enolisable to an aromatic system, opt. substd. and with 1-3 N atoms at least one being substd. and at least one being part of an amido gp.) Pref. XS is of formula (Ia):



(Ia)

(R_1=H or CH_3O; R_2 = CN, pyridy thio, aliphatic, aromatic, alicy ic, or hetero-aromatic radica R_3 = H, OH, CH OH, NH_2, N_3, COOH or SO_3H; the R_2's other than CN ar opt. substd. by OH, halo, lower alkyl or alkoxy and wh R_2 = pyridylthio, R_3 = H). They are prepd. e.g. by reacting $X'W_1$ with HSY (X' = X with COOH in 4 posn.; W_1 leaving gp.) (I) are broad-spectrum antibiotics active against e.g. penicillinase and cephalosporinase-elabora ing Gram-positive, and Gram-negative bacteria. They can be used therapeutically, prophylacticaly or as disinfectants the normal adult dose is 1-4 g/day pref. parenterally.

Montavon M., Reiner R., Bul. 44/30.11.78 18.6.75 a 145554 (7pp)

STER- ★ D22 66184B/36 ★US 4164-
Surgical table disposable drape - with base and extension she fan-folded to form compact package
STERAPLAST INC 18.11.77-US-852692
P31 (21.08.79) A61b-19/06

A drape comprises a non-fenestrated base sheet with a fluid-impervious plastic film of smaller size bonded ce rally to one surface. An extension sheet bonded along o edge of the base sheet overlaps at least half its width ov an end of the base sheet.

The extension sheet is fan folded into the base sheet the latter is in two fan fold gps. from opposite edges. O base sheet fanfold overlaps part of the extension sheet and one gp. is then folded into the other to form a comp package which is readily unfoldable for spreading on a table. 18.11.77 as 852692 (4pp1358)

ROHM ★ D22 66265B/36 ★US 4165-
Formaldehyde stabilised 3-isothiazolone soln. - used for comp giving mildew resistant coatings
ROHM & HAAS CO 18.09.78-US-944830 (20.08.73-US-38974
A60 E13 G02 (E17) (21.08.79) C07d-275 C07d-277

A soln. of a 3-isothiazolone (I) in a polar organic solve contains HCHO as stabiliser, pref. (I) being 2-n. octyl-isothiazolone and the solvent being propylene glycol. T soln. may be combined with a film-forming material (e PVAc) to form a compsn. (A) from which coatings with proved mildew resistance are obtd.

US4129448 claimed coating compsns. (A). 18.9.78 944830 Div. ex. 4129448 (+6.9.77-US-830716) (7pp99

RYDE- ★ D22 66286B/36 ★US 4165
Contact lens autoclave steriliser for home use - with vapour capsule holding lenses and sterilising solution
RYDER INT CORP 04.12.75-US-637514
P34 (21.08.79) A61l-03

An autoclave steriliser for contact lenses comprises a sule for housing the lenses and providing a vapour-tight chamber in which a sterilising solution is placed. The capsule is received in a housing which includes a thermally conductive heat well. A heater is in abuting, heat transfer contact with the well. A thermostat contacts the well at the opposite side to the heater and this controls the heater to deactivate it when the temperature rises to a set level above the boiling point of the sterilizing solution.

A pivoted cover coverlies the well and this may be locked in position by a latch associated with a bimetallic strip contacting the well at a position intermediate the heater and theremostat. This ensures locking of the cover before the temperature of the sterilizing solution reaches a dangerous level. 4. 12. 75 as 637514 (6pp295)

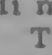
HENK D22 05914Y/04 =US 4165-375

Lower alkyl laurates as foam inhibitors - added to disinfectants contg. quat. ammonium cpds. applied by spraying (BE070176)

HENKEL KG AUF AKTIEN 09.07.75-DT-530584

*E17 P34 (E19) (21.08.79) *DT2530-584 A01n-09*

A low-foaming disinfecting agent for spraying or sprinkling applications is prepd., which comprises a quat. ammonium cpd. and a foam-inhibiting amt. of ≥ 1 1-4C alkyl laurate.

The quat. ammonium cpd. has formula $[R_1R_2R_3R_4N^+]X^-$ or [N-R_1]X^-, such that R_1 is 8-20C organic cpd., R_2 and R_3 are 1-3C alkyl or 2-3C alkylol, R_4 is 1-12C alkyl or an aromatic hydrocarbon contg. 1-12C alkyl opt. substd. in the aromatic ring by halogen, lower alkyl or lower alkoxy; and X is an anion. Agent contains alkyl laurate in amt. of 0.1-20 wt. % w. r. t. solids wt., and 0-55 wt. % of a sequestering cpd. to counteract the hardness components of water. The sequestering cpd. is an alkali metal polymeric phosphate, a phosphonic acid or its ammonium or alkali metal salt, an aminopolycarboxylic acid or its ammonium or alkali metal salt.

The disinfecting agent is used for cleaning metal surfaces in the food industry, esp. in the mfr. of beverages. 2. 7. 76 as 702230 (5pp931)

See Also

D13 US 4165379 D15 EP---3879

D23: OILS; FATS; WAXES

GLED/ ★ D23 64727B/36 ★BE -875-681

Sepn. of untreated animal fat into water grease, and tissue - uses high pressure melting to avoid fumes

GLEDITZSCH IJ 18.04.78-DT-816717

(16.08.79) C11b

Untreated fats are first mechanically size-reduced and then heated until melted. The molten mixt. is then sepd. into its constituents, i. e. fat, skin and tissue, and water. During the melting stage, the raw material is now held at a pressure corresp. to a b. pt. of water temp. which is higher than the temp. at which melting takes place. The molten mixt. is fed into a dryer.

Pref. the raw material is not only size reduced but also crushed to a pulp which can be pumped prior to melting, in the dryer, the molten mixt. is prepd. subjected to sub-atmospheric pressure. The pressure under which the material is melted is pref. maintained on the mixt. until it enters the dryer.

The sepn. is carried out without the injection of live steam which gives rise to atmospheric pollution with objectionable smells. The sepd. water is clean and does not present an effluent disposal problem. 18. 4. 79 as 875681 (15pp448)

UNIL D23 76137R/41 =DS 2016-603

Selective hydrogenation catalyst for poly - unsaturated triglycerides

UNILEVER NV 09.04.69-LU-058392

*E19 J04 (30.08.79) *BE-748-742 B01j-37/02*

A catalyst comprises a metal catalytic cpd. e. g. Ni, in a porous carrier, suitable for hydrogenation and dehydrogenation reactions. The carrier is treated with an aq. soln. of a salt of the metal and a cpd liberating hydroxyl ions on heating. The impregnated carrier is heated to release the hydroxyl ions, precipitate the metal and pref. to reduce the pptd. metal cpd.

The heating is effected under conditions such that evaporation of the water present does not occur, e. g. under a partial water vapour partial pressure of 0-100m Hg. The particle size of the metal in the porous carrier is improved. 7. 4. 70 as 016603 (14pp068)

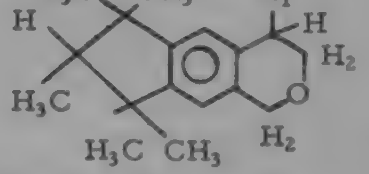
INTF D23 70510W/42 =DS 2516-809

Isochromans prodn from 3-arylpropan-1-ols - by cyclizing with an acetal in presence of acid catalyst

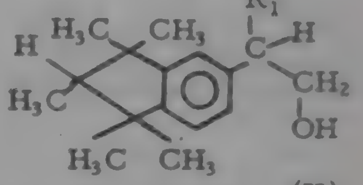
INST TEXTILE DE FRANCE (INFL) 01.05.74-US-466068

*E13 (30.08.79) *US3910-964 C07d-311/78*

Isochromans of formula (I) (in which R_1 is H or Me) are produced by reacting an alcohol of formula (II) (in which R_1 is H or Me) with an acetal (III) of formula $R_2O\text{-}CH_2\text{-}OR_3$ (in which R_2 and R_3 are lower alkyl) in the presence of p-toluenesulphonic acid or H_3PO_4 at 85-150°C; (III) is opt. formed in situ from the aldehyde and the corresp. alcohol.



(I)



(II)

The process is simple and gives higher yields of (I), which are useful as fragrances. 16. 4. 75 as 516809 (5pp481)

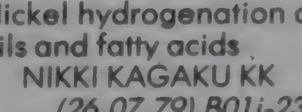
DRAG- ★ D23 64806B/36 ★DT 2807-584

Fixative for perfume compsns. - is 1-tri:methyl-cyclohexyl-hexan-3-ol (NL 24.8.79)

DRAGOCO GERBERDING 22.02.78-DT-807584

E15 (30.08.79) A61k-07/46 C07c-31/13 C11b-09

The use of 1-(2, 6, 6-trimethylcyclohexyl)-hexan-3-ol of formula (I) as a fixative for perfume compsns. is new:-



(I)

(I) is used in an amt. of 1-25 (3-10) wt. % of the total compsn. (I) is new and is prepd. by condensing citral with pentan-2-one in presence of bases to 8, 12-dimethyl-trideca-5, 7, 11-tri-en-4-one, which is cyclised with H_3PO_4 and the prod. totally hydrogenated.

(I) rounds-off and fixed the compsn. with simultaneous increase in perfume intensity. 22. 2. 78 as 807584 (7pp)

NKKA ★ D23 65385B/36 ★J5 4094-489

Nickel hydrogenation catalyst for fats and oils - esp. for treating fish oils and fatty acids

NIKKI KAGAKU KK 10.01.78-JA-000907

(26.07.79) B01j-23/80 C11c-03/12

Catalyst contains Ni, Zn and a support Gram atom ratio Zn/Ni is 2-36/100. Each component is dispersed in a high m.pt. fat or oil.

In the hydrogenation process, 1.5×10^{-3} gg.-5 g. of Zn cpd. is first added to the fats and oils and mixed at the temp. of 100-250°C. under a N_2 or H_2 atmosphere. The resulting material is filtered and the support and catalyst are added to the filtrate.

Catalyst shows high catalytic activity as well as improved durability. 10.1.78 as 000907 (3pp55)

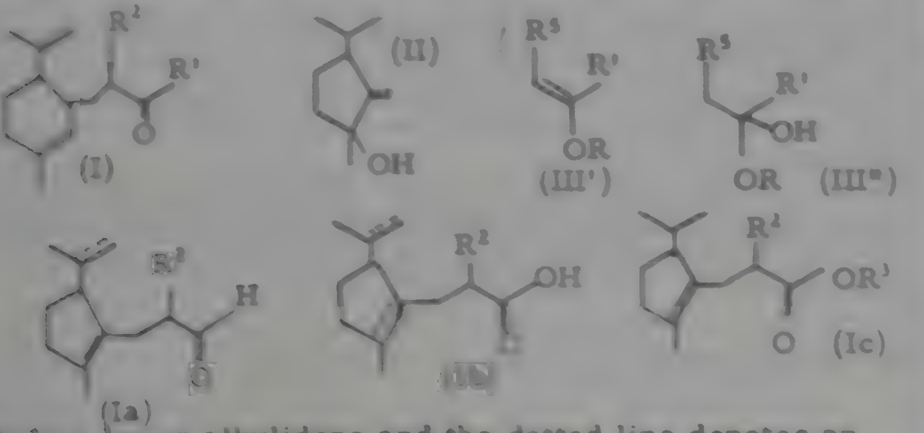
GIVA D23 60546U/41 = J7 9022-968

Perfumery compsns contg 3-isopropyl - or 3-isopropenyl cyclopentene derivs

GIVAUDAN L & CIE SA 17.03.72-CH-004040

*E15 (10.08.79) *DT2313-017 C07c-45 C07c-47/38 C07c-49/61 C07c-51/24 C07c-61/20 C07c-67*

Cyclopentenes having the general formula (I) (where R' is H, OH, lower alkyl or lower alkoxy, R^2 is H, lower


(I) (II) (III') (III") (Ia) (Ib) (Ic)

alkyl or lower alkylidene and the dotted line denotes an opt. bond). are useful as perfumes and ingredients of perfume co compsns. They are prepd. by reacting a cpd. having the formula (II). in the presence of an acid catalyst, with an enol ether (III') or a ketal (III"). (in which R^5 is H, lower alkyl or lower alkenyl) and opt. catalytically hydrogenating a 3-isopropenyl cpd. (I) obtd. to the 3-isopropyl cpd. of formula (I) and/or oxidising an aldehyde obtd. of formula (Ia) to the acid (Ib). and opt. converting these to the ester (Ic) (where R^3 is lower alkyl). 15. 3. 73 as 318475 (clg. 17. 3. 72-CH-004040) C07c-47/38, 49/61, 61/20, 69/74, 45/00, 51/24, 67/00, A61k-7/46 (10. 8. 79) GIVAUDAN & CIE. S. A. L. (11pp)(J49011850)

DAII D23 59000U/40 = J7 9023-040

Gel-like urethane resins - useful for solid lubricants , solid fuels, soil stabilisers and perfumes

DAIICHI KOGYO SEIYA 20.10.71-JA-082667

*A25 (10.08.79) *J48047-600 + C08g-18/48*

Acetalised condensed prods. of poly(ethylene oxide) contg. 2 end OH gps. and polyols contg. 3 active H gps. are reacted with polyisocyanates and mixed with excess H_2O and additives to give the resins.

In an example 500g block copolymer of poly(ethylene glycol) (mol. wt. 3500) and poly(propylene glycol) (mol. wt. 500) was stirred for 1 hr. at 150° in 50 g mono- and dibenzal sorbitol mixt. (9:1), mixed at 60°C dropwise under stirring with 70 g 2, 4-/2, 6-toluylene diisocyanate (4:1), kept for 2 hr. at 70°, and the reaction prod. (5 pts.) melted and dispersed in a mixt. of 40 pts. H_2O and 10 pts. mineral oil to give a gel or elastomer with Shore A hardness 10, breaking elongation 1000% and tensile strength 10 kg/cm^2 available for solid lubricant. 18. 10. 71 as 082667 C08g-18/48 (10. 8. 79) DAIICHI KOGYO SEIYAKU CO. LTD; (5pp)(J48047600)

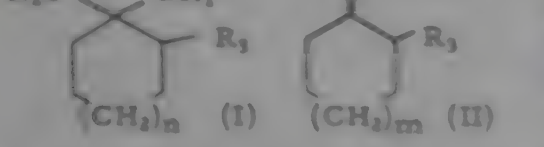
GIVA D23 33725T/21 = NL-161-126

Carbocyclic odourants - giving intensity and consistency to perfumes

GIVAUDAN L & CIE SA 10.11.70-US-088494

*E15 (15.08.79) *BE-775-152 A61k-07/46 C07c-35/08 C07c-69/06 C11b-09*

New cycloalkanols, substd. at posn-1 with a hydrocarbon and at posn-2 with butyl are of formula (I):


(I) (II)

(in which R_1 is H or Me, R_2 is H or (1-4C) alkanoyl, R_3 is n-, sec- or isobutyl, Z is -C≡C-, -CH=CH-, or $-CH_2-CH_2$, and n = 0, 1 or 2). (I) have organoleptic activity and may be used in perfume compsns. soaps and other cosmetics. They have a strong, diffuse, earthy-, woody- or cedar-like odour. Some of (I) have amber nuances. (I) give an esp. fresh odour when used at 0.1-20% in colognes.

Prepn. is by reacting a ketone (II) with MZR_1 (where M is alkali metal or MgX, X is halogen, and when M is alkali metal, Z is -C≡C-). 10. 11. 71 as 015452 (13pp279)

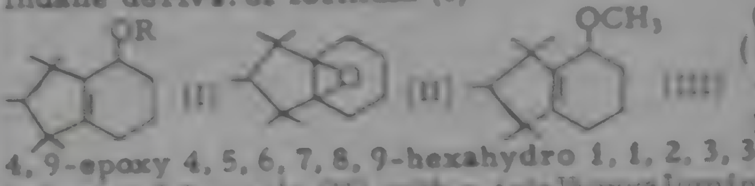
INFL D23 08121S/04 = NL-161-

Indane derivs as odorants

INT FLAVORS & FRAGR INC 18.08.69-US-851090 (18.08.69-851048)

*E14 (15.08.79) *BE-753-751 A61k-07/46 C07c-29 C07c-35 C07c-43/18 C07c-69/02 C11b-09*

Indane derivs. of formula (I)


(I) (II) (III)

(where R is (1-4C) alkyl -acyl) are pd. by react 4, 9-epoxy 4, 5, 6, 7, 8, 9-hexahydro 1, 1, 2, 3, 3-pentameth indane of formula (II) with a trialkoxyaluminium cpd. to give cpd. of formula (III):

This is opt. reacted with a dialkylsulphate and alkali metahydride to give (I) where R is (1-4C)alkyl, or with acylhalide in the presence of a basic catalyst to give (I) where R is (1-4C) acyl.

(I) may be used as scents either alone or in combinat to give a woody odour to perfume compsns. soaps, cosm-ics, cleaning agents, talc, etc. 15. 1. 76 as 000401 Div ex. 7012137 (+18. 8. 69(3)-US-851049, 851076, 851086)(7p

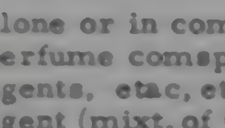
INFL D23 08121S/04 = NL-161-

Indane derivs as odorants

INT FLAVORS & FRAGR INC 18.08.69-US-851090 (18.08.69-851048)

*E14 (15.08.79) *BE-753-751 A61k-07/46 C07c-45/16 C07c-49/ C11b-09*

Indanone derivs. of formula (I) are prepd. by oxidising a


(I)

1, 2, 3, 3-pentamethyl 4, 5, 6, 7, 8, 9 hexahydroindan-5-ol or -6-ol with 6-valent Cr-cpd.

(I) may be used as scents eithe alone or in combination to give an odour of amberwood t perfume comspns. soaps, cosmetics, deodorisers, clear agents, etac, etc, oxidn. agents used are e.g. Jones reagent (mixt. of CrO_3 and H_2SO_4). When the ketone is not satd. the six-ring is hydrogenated using Raney-nickel e so that the carbonyl is not reduced. 15. 1. 76 as 000398, Div. ex. 7012137, (+18. 3. 69(3)-US-851049, 851076, 051086 (5pp279)

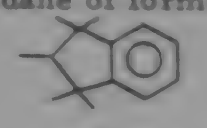
INFL D23 08121S/04 = NL-161-1

Indane derivs as odorants

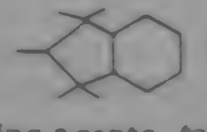
INT FLAVORS & FRAGR INC 18.08.69-US-851090 (18.08.69-U 851048)

*E14 (15.08.79) *BE-753-751 C07d-301/14 C07d-303/04*

4, 9-Epoxy 4, 5, 6, 7, 8, 9-hexahydro 1, 1, 2, 3, 3-pentameth indane of formula (I):


(I)

is prepd. by oxidn. of 4, 5, 6, 7-tetr hydro-1, 1, 2, 3, 3-pentamethylinda (II) with a percarboxylic acid.


(II)

(I) has a good pinewood odour an may be used as scent either alone c in combinations in perfumes, soaps, cosmetics, cleaning agents, deodor -ing agents, talc, etc. 15. 1. 76 as 000400, Div. ex. 7012 (+18. 8. 69(3)-US-851049, 851076, 851086) (5pp279)

BRPE D23 29632R/17 = NL-161-1

Continuous preparation of greases

BRITISH PETROLEUM LTD 26.10.68-DT-805562

*H07 (15.08.79) *BE-740-794 + C10m-05/14*

Continuous prepn. of lubricating grease comprises mixi in a sealed mixer a metal base, a soap-foaming materia and a lubricating oil. The base, soap-forming materia and lubricating oil are added to the mixer and mixed at least autogenous pressure at 100-250°C with an average residence time of < 500 seconds.

At least part of the volatile prods. formed during th saponification reaction is removed and the prod. passed continuously to a vaporiser of lower pressure than that the mixer. 24. 10. 69 as 016106 (9pp549)

ʀL ★ D23 66255B/36 ★US 4165-301
e of terpene dimer(s) as perfume diluents - the dimer(s) being
rived from alpha or beta pinene, camphene, d-limonene or
pentine
INT FLAVORS & FRAGR INC 03.05.78-US-902436
E15 (21.08.79) C11b-09

ngle phase liquid perfume compsns. contain one or more tural perfume oils and/or synthetic perfume oils and/or rfume chemicals, and 1-30 pts. per 100 pts. of the compn., of ≥1 dimerisation prod. of alpha pinene, beta pine, camphene, d-limonene or turpentine and/or the hydronated dimerisation prods. of these cpds.

The dimerisation prods. are diluents or extenders which not alter or reduce the odour of perfumes to which they e added. 3. 5. 78 as 902436 (18pp955)

ARR/ D23 08055B/05 =US 4165-321
etero-macrocyclic perfume ingredients - prepd. by cyclising
lyester in the presence of catalyst and long chain carboxylate
HARRIS E G (EMEY) 21.09.77-US-835253
A35 E13 (A23) (21.08.79) *BE-870-612 C07d-313 C07d-321
C07d-323 C07d-327

etero-macrocyclic cpds. selected from 8-20C cyclic ests and lactones are prepd. by depolymerising a linear polster and ring-closing at elevated temp. and reduced preure in the presence of a metal catalyst. Improvement mprises conducting the process (semi)-continuously in e presence of 0, 75-10 (1, 25-5) mol. % of a monocarboxyte (I) with agitation in an inverted multiple-blade conical ssel. (I) is derived from an aliphatic 6-40C monocarboxic acid.

Agitation is such as to provide top-to-bottom mixing roughout the total vol. of the reaction mass. The blades the vessel have a helical configuration and are arranged rotate throughout the entire reaction mass close to the terior surface of the vessel. They are rotated in a direion to give a downward flow in the reaction mixt.

Process gives good quality prods. with reduced by-prod. rmation. It can be operated on a larger scale than prior t processes. Prods. are used as fragrance materials. 1. 9. 77 as 835253 (8pp992)

AOS D23 02105A/02 =US 4165-327
urifying lanolin cpds. to reduce allergy reactions - by extracting
ydrocarbon soln. with aq. lower alcohol
KAO SOAP KK 07.07.76-JA-080571
B01 (21.08.79) *BE-856-424 C07j-09 C11c-01/08

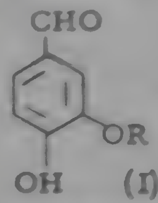
Prodn. of a lower allergenic lanolin (deriv.) comprises (1) liq-liq. extn. of lanolin (derivs.) with a non-polar hydrocarbon solvent (I) and a mixed solvent comprising water and a lower alcohol and (2) collecting the (I) fraction.

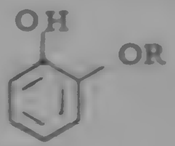
The liq.-liq. extn. is carried out to an extent such that the lanolin contains no component having an Rf value of $<$0, 38 when subjected to thin layer chromatography on 0. 25 mm thick magnesium silicate, with $CHCl_3$ as the developing solvent.

Pref. (I) is hexane, pentane, heptane or ≥1 of isobutene, 1-butene and 2-butene. Pref. the mixed solvent has a wt. ratio of lower alcohol (pref. (m)ethanol or propanol) to water of 0, 05-10. 24. 6. 77 as 809870 (4pp992)

UBEI D23 59057A/33 =US 4165-341
Substd. benzaldehyde derivs. e.g. protocatechualdehyde prodn. -
by reacting catechol or 2-alkoxyphenol with glyoxylic acid and
oxidising the product
UBE INDUSTRIES KK 10.05.77-JA-052590 (04.02.77-JA-010733)
B05 E14 (21.08.79) *DT2804-063 C07c-45/18

Prepn. of protocatechualdehyde or a 3-alkoxy-4-hydroxy benzaldehyde of formula (I) (where R is (m)ethyl) comprises reacting catechol or a 2-alkoxy phenol of formula (II) with glyoxylic acid in basic aq. medium to form a reaction prod., and then oxidising the prod. in a basic aq. medium. The improvement comprises reacting catechol or (II) with glyoxylic acid of 0. 5-2 moles per mole of catechol or (II), in an aq. medium contg. a strong inorganic base and ≥1 catalyst of Al oxide, Si oxide and hydrated Al oxide in an amt. of $<$0. 01 g per g of catechol or (II) at 0-50°C to form the reaction prod.


(I)


(II)

The prods are obtd. in higher yield and selectivity cf. prior processes. They are useful as intermediates for perfumes and pharmaceuticals. 16. 1. 78 as 869608 (6pp92)

See Also

D13 GB 1552012 D13 NL 161151

D24: SOAP; SOAP DETERGENTS

SeeAlso

D21 US 4165293

D25: OTHER DETERGENTS

ENK D25 68580T/43 =DS 2115-082
nti-foaming agent - for washing-up machines based on
olysiloxane emulsion
HENKEL KG AUF AKTIEN 29.03.71-DT-115082
A97 E19(A26) (30.08.79) *NL7202-715 +B01d-19/04

Anti foaming agent for dish washers is a silicone emulsion f 1-10 (3-6)% silicone oil, 1-20 (5-15)% of an organic olvent from the gp higher hydrocarbons, alkylhalides and ryl halides, 1-10 (3-6)% mono- and/or di-glycerides of 2-18C (un)satd. fatty acids 1-10 (3-6)% fatty alcoholr alkylphenol-polyglycolethers and 50-96 (67-86)% water. fungicide and/or bactericide may also be present.

The emulsion is stable in transport and storage. 29. 3. 71 as 115082 (3pp068)

DEGS D25 33354B/18 =DS 2748-783
Stabilisation of sodium percarbonate particles against moisture - by
adding water mixing with silicic acid and drying
DEUTSCHE GOLD & SILBER 31.10.77-DT-748783
E34 (30.08.79) *BE-871-633 C01b-15/10

Sodium percarbonate is stabilised by mixing sodium percarbonate contg. 1-10 wt. % water with highly dispersed silicic acid, pref. of particle size (2-100) 7-20 mu, and then drying.

The stabiliser does not impair the activity of the sodium percarbonate when it is incorporated into detergent compsns. 31. 10. 77 as 748783 (3pp068)

LIOY ★ D25 64914B/36 ★DT 2906-074

Liq. cleaning compsn. e.g. for heavy duty cleaning - contains magnesium olefin sulphonate, ethoxylated alcohol and magnesium sulphate

LION FAT & OIL KK 17.02.78-JA-017237

A97 E19 (A25 E33) (30.08.79) C11d-01/28

Liq. cleaning compsn. comprises (a) 5-40 wt.% 10-20C Mg a-olefin sulphonate (I); (b) 1-8 (2-6) wt.% addition prod. of 3-13C prim. alcohol with 1-20 moles ethylene oxide, or of 9-18C sec. alcohol with 3-15 moles ethylene oxide and (c) 0.2-5 wt.% $MgSO_4$. The balance is an aq. solvent and opt. additives. (I) is esp. of mean length 13.5-16C with 25-75% 14C. The solvent is esp. water or ethanol-water of wt. ratio 1:5 or lower.

Compsn. has excellent detergency and cleaning activities, high foaming power and reduced tendency to form surface films. Compsns. are useful e.g. for rinsing containers, as shampoos and as heavy-duty cleaners.

16.2.79 as 906074 (24pp1251)

ECON ★ D25 64962B/36 ★EP ---3-769

Detergent contg. article for automatic washing machines - comprising a solid cast detergent compsn. in an open mould

ECONOMICS LAB INC 07.02.78-US-875784

P28 (05.09.79) A47k-05/08 C11d-17/04

D/S: E(DT, FR, GB, SW).

A detergent-contg. article comprises a receptacle-shaped mould surrounding and in contact with, on all but one of its surfaces, a solid cast detergent compsn. comprising at least two components, one of which is an alkaline hydratable chemical, esp. Na or K phosphate, Na polyphosphate or Na or K trimetaphosphate.

The article is for use in automatic washing machines. It safely dispenses dissolved solids from only one surface and can be designed or structured to minimise chlorine stability and differential solubility problems, e.g. by use of preformed plugs or cores of a Cl source or defoamer encased in the detergent compsn.

6.2.79 as 100344 (36pp558)

(E) ISR: FR1368126; GB1307387.

PROC ★ D25 64996B/36 ★EP ---3-861

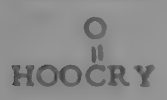
Detergent bleach compsn. effective under dark conditions - comprising a surfactant and peroxy and porphin bleaches

PROCTER & GAMBLE CO 28.02.78-CA-297842

E19 (05.09.79) C11d-03/39 D06l-03/02

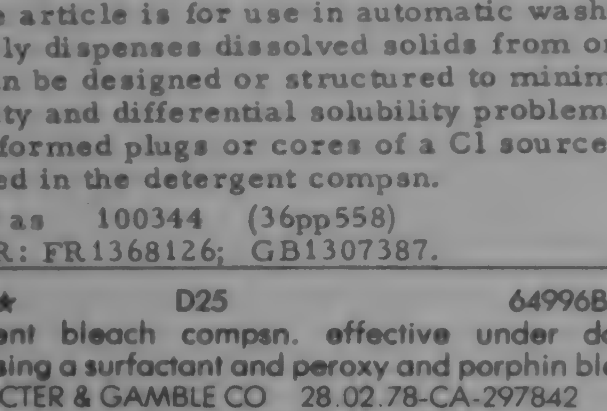
D/S: E(BE, DT, FR, GB, IT, NL, SW).

A detergent bleach compsn. comprises 5-50 wt.% (A) an anionic, nonionic, semipolar, ampholytic or cationic surfactant; (B) a peroxy bleach (available oxygen content 0.2-5.0 wt.%, based on the compsn.), which is an inorganic peroxide or peroxyhydrate, urea peroxide or peroxy acid of formula



$HOO\overset{O}{\overset{\|}{C}}RY$

where R is 1-20C alkylene or phenylene and Y is H, halogen, alkyl, aryl or a gp. providing an anionic moiety in aq. soln., or its anhydride or salt; and 0.001-0.022 wt.% (C) a porphine bleach of formula:



(where each X is =N-, =CY-;
the total number of =N- gps. is 0-4;
each Y is H, meso substd. alkyl, cycloalkyl, aralkyl, aryl, alkaryl or heteroaryl;
R is H or pyrrole substd. alkyl, cycloalkyl, aralkyl, aryl, alkaryl or heteroaryl, or adjacent R's are joined with ortho arylene gps. to form pyrrole substd. alicylic or heterocyclic rings; A is 2(H) atoms bonded to diagonally opposite nitrogen atoms, or Zn(II), Cd(II), Mg(II), Ca(II), Al(III), Sc(III) or Sn(IV); B is an anionic, nonionic or cationic solubilizing gp. substd. into Y or R; M is a counter ion to the solubilizing gps.; and s is the number of solubi izing gps.; with the provisos that when B is cationic, M i an anion and s is 1-8; when B is nonionic, e.g. polyethoxylate, M is absent, s is 1-8 and the number of condensed ethylene oxide molecules/porphine molecule is 8-50; when B is anionic and proximate, M is cationic and s is 3-8; when B is anionic and remote, M is cationic and s i 2-8; and when B is sulphonate, the number of sulphonate gps. is no greater than the number of aromatic and heterocyclic substituent gps.

The compsn. is useful for combined household washin and bleaching of fabrics partic. for removal of stains and fugitive dyes. It is effective under dark washing-drying conditions, e.g. in washing machines, using low levels of (B) and (C).

19.2.79 as 200082 (48pp558).

(E) ISR: DT2627449; US4033718; US4087369; DT2657042; FR2331612.

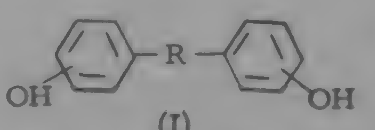
SHEL D25 48204Y/27 =GB 1550-35

Stabilised nonionic alcohol alkoxylated surfactants - contai bisphenol-A etc. as stabiliser to reduce carbonyl gp. formation an discolouration on storage

SHELL INT RES MIJ BV 19.12.75-GB-052101

*E17 (E14) (15.08.79) *NL7613-955 +C07c-43/11*

Unbuilt detergent compsn. comprises (a) an alkyl polyoxy alkylene ether nonionic surfactant, (b) a bisphenol additive of formula (I) and opt. (c) water. In (I) R is 1-6C alk lene:



(I)

Pref. (a) has formula $RO(C_nH_{2n}O)_mH$ (where R is 6-20 alkyl, n = 2 or 3, and m = 2-25). Pref. (I) is 4,4'-isopropylidene-bisphenol. Pref. amt. of (I) is 0.01-2 wt.% based on wt. of (a).

The compsn. has improved storage stability. Use of (I reduces the carbonyl content build-up of the stored surfac tant and does not adversely affect the colour. 17.12.76 (4pp924)

COLG D25 42523A/24 =GB 1551-58

Elastic washing agent in piece form - contains anionic or amphoteri surfactant, gelatin, water and or poly:hydric alcohol

COLGATE PALMOLIVE CO 02.12.76-US-746999 (02.12.76-US 746871)

*E19 (30.08.79) *DT2753-850 C11d-03/38 C11d-17 +C11d-01*

An elastic detergent bar comprises synthetic organic dete gent (I), gelatin and a liquid medium, which is water and or lower polyhydric alcohol contg. ≯6C atoms and ≯6 OH gps. per molecule), a crosslinking agent and/or a denaturing agent for the gelatin being present at least when (I) is solely an anionic detergent and the liquid medium is aqueous. A preferred bar comprises 10-80% of a mixture of anionic and amphoteric synthetic organic detergents in a proportion of 1:5 to 5:1, 5-30% gelatin and 5-60% water.

The bars are intended for conventional toilet soap use and have unusual tactical properties such as 'squeezability', which make them like playthings for children.

1.12.77 as 050118 (+2.12.76(2)-US-746998-9) (20pp990)

KAOS D25 04579A/03 =J7 9023-00

Chemical cleaning compsn. - comprises an alkyl benzene sulphon acid salt with an alkanolamine and surfactant in an organic solvent

KAO SOAP KK 25.06.76-JA-075346

*A97 E19 (10.08.79) *DT2726-896 C11d-01/22*

A three-component, dry cleaning compsn. is described. The compsn. comprises (1) 5-50 wt.% (pref. 10-40 wt.%) of a salt (mixt) of a (10-16C) alkyl) benzene sulphonic acid with a dialkyl alkanolamine of formula $RR_1NC_nH_{2n}OH$ (where R and R_1 are each 2-3C (un)branched alkyl and n=2 or 3), (2) 30-60 wt.% of a surfactant (mixt.) which is soluble in an organic solvent (3), (1) + (2) 30-80 wt.% of the total compsn. and (1) pref. being 30-70 wt.% of (1) + (

The compsn. is easily made has a high water-solubility capacity and does not suffer from some of the draw-

backs of known chemical cleaning agents (e.g. discolouration of the fabric substrate, toxicity, flammability etc. The surfactant is e.g. a polyoxyethylene phenyl or alkyl ether with 2-20 moles ethylene oxide/mole.
25. 6. 76 as 073346 C11d-1/22 (10. 8. 79) KAO SOAP KK (7pp)(J53001204)

KAOS D25 00928X/01 =J7 9023-364
Detergent-bleach compsns. - contg. sodium percarbonate, carbohydrate, sucrose higher fatty acid ester
KAO SOAP KK 17.12.73-JA-141544
*E19 (E34) (13.08.79) *J50091-578 +C11d-03/39*

Powder detergent-bleach compsns. contained Na percarbonate 0.5-60, carbohydrate (or its acetate) 0.1-60, and sucrose higher fatty acid ester 0.5-30%. In an example, a detergent composed of Na percarbonate 20, glucose penta-acetate 20, sucrose monostearate (I) 10, and Na_2SO_4 50% has better storability (effective O retention) than that contg. other surfactant, e.g. Na dodecylbenzenesulphonate, Na dodecyl sulphate, or sorbitol monostearate, in place of (I). 17. 12. 73 as 141544 C11d-3/395 (13. 8. 79) KAO SOAP KK (5pp)(J50091578)

LIOY D25 19075U/14 =NL-161-119
Sulphonation appts - with inlet opening for organic cpd covered by net with fine mesh
LION FAT & OIL KK 18.09.71-JA-072829
*A88 E19 J04 (15.08.79) *NL7212-491 B01j-04 C07b-13/06*

A sulphonation reactor consists of two concentric vertical curved reaction walls, both water cooled, equipped with a concentric gas feed nozzle and ⩾1 liquid inlet. To regulate and distribute the flow of liquid. a permeable layer comprising a woven fabric with a mesh size 5-90 μ applied in layers to the required thickness covers each fluid inlet.

The device is suitable for a wide range of sulphonating and sulphating reactions and esures sufficiently even and rapid mixing to lessen the formation of unwanted by-prods. with discolouration of the prod. 14. 9. 72 as 012491 (7pp)

VOLS/ ★ D25 66027B/36 ★SU-635-126
Compsn. for cleaning solid surfaces, e.g. vehicle bodies - includes carboxymethyl-cellulose, sodium tri:poly phosphate, sodium silicate, adipic acid, ammonium carbonate, etc.
VOLSKAYA S A 17.07.75-SU-159271
A97 (30.11.78) C11d-01/83 C11d-03/06

Compsn. for cleaning solid surfaces, esp. vehicle bodies vehicle interiors, railway rolling stock, cycles, motorcycles etc. comprises (by wt.): 23-27.5% anionic surfactant, 3-10% polyoxyethylated synthetic fatty acid monoethanolamides, 3-10% caprolactam, 3-10% alkylene glycol, 0.5-1% carboxymethyl-cellulose, 2-10% Na silicate, 8-18 % Na tripolyphosphate 3.5-6% adipic acid, 2.5-5% $(NH_4)_2CO_3$, 0.1-0.2 odoriser and balance water. The compsn. has excellent cleaning power.

Prefd. anionic surfactants are alkyl sulphonates and sulphates, and prefd. alkylene glycol is diethylene glycol. Volskaya S.A., Sheinakhova V.S., Shtokalov F.V. et al Bul. 44/30.11.78 17.7.75 as 159271 (3pp314)

PROC ★ D25 66275B/36 ★US 4165-334
Zwitterionic surfactants contg. sulphonium gp. - are free of nitrogen and phosphorus and do not require builders
PROCTER & GAMBLE CO 07.06.77-US-804490 (05.09.75-US-610595)
A97 E19 (21.08.79) C07c-141/02

Detersive cpds. of formula $R_1R_2S^+-R_3O(C_2H_4O)nR_4A^-$ (I) are new, where R_1 and R_2 are each 1-30C straight or branched alkyl, alkenyl, cycloalkyl, aryl, aralkyl or alkaryl gps., R_3 is 2-8C alkylene, R_4 is 1-8C alkylene. A is sulphate, n = 1-00.

(I) are highly effective surfactants, which can be used to alunder fabrics in concns. as low as 75 ppm, and give good clay soil removal even without builders. They are free of N or P. 7. 6. 77 as 804490 (10pp955)

See Also

D21 US 4165293

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L    A93  *DT 2602-948
    Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L    A93 L02(A21)  *DT 2602-947
    Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
     M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE  -832-423  X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF 7502-292   X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or ≠ sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97D15M14
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                          49862X/26  *US 3963-654
  CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                     49433X/26  *DT 2554-327
  CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                          48076X/26  *CA -990-668
  CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

*ABMI= 27.07.77 AS BELO MICROBIOL INST. D16 E19 J01 M25 *SU -634-792
Promoter for flotation of non-sulphide ores - 65858B/36
ADWA- 18.02.78 ADWARE INC D15 =BE -874-225
Aerobic treatment of waste water by activated sludge - 65803B/36
*ADWA- 18.02.78 ADWATRE INC D15 *NL 7901-261
Aerobic treatment of waste water by activated sludge - 65803B/36
*AGEF- 25.02.78 AGEFKO KOHLENSAURE D16 *DT 2808-242
Enriching grape juice with carbon di:oxide - 64860B/36
AJIN 29.11.77 AJINOMOTO KK D13 #FR 2409-703
Powdered caramel prodn. from starch or dextrin - 11069A/06
*AJIN 10.01.78 AJINOMOTO KK D13 *J5 4095-761
Improving the quality of denatured defatted soybean protein - 65619B/36
AJIN 11.01.78 AJINOMOTO KK B02 C02 D16 =J5 4095-793
Purine arabinoside(s) enzymatic prodn. - 16275B/09
AKER- 20.02.78 AKERS MEK VERKSTED D15 H01 J01 =NL 7901-304
Water filter for removing microorganisms, e.g. marine algae - 63493B/35
ALBR 25.11.77 ALBRIGHT & WILSON LTD D15 H01 M14 =FR 2409-964
Inhibiting boiler scale formation or metal corrosion - 42690B/23
*ALFA 20.04.78 ALFA LAVAL AB D13 *BE -875-724
Gravity pressure extrusion to mfr. blocks of cheese from curds - 64736B/36
*ALKU 25.02.78 AKZO NV D15 E31 J01 M14 (E32) *EP ---3-862
Heavy metal removal from aq. effluent discharge - 64997B/36
*ALMA= 22.07.77 ALMA-ATA NONAL BEER D13 *SU -634-731
Non-alcoholic, tonic sparkling drink - 65816B/36
*ALUM- 17.06.77 ALUMINIUMIPARI TERV D15 *HU T016-872
Processing mine water - B/36
*ALWO= 28.12.76 AS LATV WOOD CHEM A97 C03 D13 (A11 C04) *SU -635-104
Modified lignin for use in fertiliser and feed additive mfr. - 66006B/36
AMCY 25.01.74 AMERICAN CYANAMID CO B03 C02 D13 =CA 1060-899
Cycloalkano/B/thienyl-urea derivs. - 52741W/32
AMCY 19.06.74 AMERICAN CYANAMID CO A25 D22 (A96) =CA 1060-746
Hydrophilic flexible polyurethane sponge for medical use - 01970X/02
AMFI 06.11.75 AMERICAN FILTRONA CORP A88 D18 =CA 1060-751
Tobacco smoke filter with annular filter - 41388Y/23
*AMLA= 18.07.77 AS MOLD APPL PHYSIC D13 *SU -634-733
Fruit juice, e.g. apple juice, manufacture - 65818B/36
*AMWA- 29.06.76 AMWAY CORP D21 E19 (D24 D25) *US 4165-293
Solid transparent soap bars - 66251B/36
ANIS 03.01.78 ANIC SPA B05 D23 E17 =J5 4095-506
Methyl-heptenone prepn. for use as terpene intermediate - 45685B/25
*ARLA- 16.02.78 MJOLKCENTRALEN ARLA D13 *DT 2903-577
Refining of dried whey products for improved flavour - 64892B/36
*ASAF 13.01.78 ASAHI DOW KK A88 D17 E13 (A91 D16) *J5 4095-746
Fructose sepn. from glucose - 65616B/36
*ASAG 13.01.78 ASAHI GLASS KK D22 J01 *J5 4095-967
Removing harmful, oxidisable components from gas - 65648B/36
*ASAH- 30.12.77 ASAHI ENG KK D15 *J5 4093-852
Appts. for purifying human waste - 65316B/36
ASAH- 22.02.78 ASAHIMATSU KORIDOFU D13 #NL 7802-006
Soya protein food from whole beans - 40431A/23
*ATCH= 27.07.77 AS TADZ CHEM INST D16 E19 J01 M25 *SU -634-792
Promoter for flotation of non-sulphide ores - 65858B/36
AZAR/ 20.12.77 AZAROV N N D15 J03 #US 4165-273
Water desalination cell - 47279B/26
*AZOV= 14.07.77 AZOV-CHERNOMORSK D12 *SU -634-727
Fish descaling apparatus - 65812B/36

*BAGR= 09.03.77 BELO AGRIC MECHN D13 *SU -635-948
Milk pasteurising appts. - 66144B/36
*BAKE= 04.02.77 BAKERY WKS NO 10 D11 *SU -635-945
Spiced-biscuits finishing prodn. line - 66141B/36
BARA/ 31.10.72 BARANOVSKIJ V M D16 =DS 2253-422
Tubular appts. for microorganism growing - 38419V/21
*BATT 25.02.78 BATTELLE-INSTITUT E A88 D15 J01 (A11 A14) *DT 2808-222
Composite membrane prodn. for hyperfiltration - 64857B/36
BATT 25.02.78 BATTELLE-INSTITUT EV A88 D15 J01 (A11 A14) =EP ---3-829
Composite membrane prodn. for hyperfiltration - 64857B/36
BEEC 12.06.71 BEECHAM GROUP LTD B03 D16 =J5 4095-796
Antibiotic pseudomonic acid - 02884U/03
BEEC 01.11.77 BEECHAM GROUP LTD B03 D16 =J5 4095-574
Pseudomonic acid C from Pseudomonas fluorescens fermentation - 54894B/30
BEHW 25.06.74 BEHRINGWERKE AG B04 D16 =DS 2430-380
Vaccine against chagas disease - 03845X/03
BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =DT 2806-509
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26
BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =NL 7900-730
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26
*BEIE 15.01.79 BEIERSDORF AG D21 *DS 2901-389
Continuous extraction of glycerine and impurities from raw soap - 64772B/36
BIOC- 24.01.78 BIOCELL SRL D23 (D13 D21) =DK 7900-173
Fractional crystallisation of fats esp. butter and palm oil - 40648B/22
*BIOT= 09.09.76 BIOTECH RES INST D16 J01 *SU -635-626
Electric evaporator for concn. of chemical suspension - 66125B/36
BOEF 28.03.73 BOEHRINGER MANNHEIM GMBH B04 D16 =HU T016-958
Cholesterol determination - 71173V/41
BOEF 01.03.74 BOEHRINGER MANNHEIM GMBH B04 D16 =DS 2506-712
Cholesterol determination procedure - 60750W/37
BORS/ 23.12.75 BORST A H D15 =US 4165-289
Back-flushing of activated charcoal effluent filter - 61344Y/35
BRAM/ 17.02.78 BRAMS S A31 D14 J02 =NL 7901-246
Drum for mixing and delivering solid materials - 63400B/35
BREW 11.06.69 BREWING PATENTS LTD D16 =DS 2027-946
Barley for malting in brewing - 92087R/49
BRIM 12.12.74 BRISTOL MYERS CO B03 C02 D13 =CA 1060-820
Novel antibiotic Bu-2183 - 49994X/27
BRPE 26.10.68 BRITISH PETROLEUM LTD D23 H07 =NL -161-199
Continuous preparation of greases - 29632R/17
BRPE 25.02.77 BRITISH PETROLEUM LTD C03 D13 =US 4165-389
Protein-rich animal feed prodn. - 65584A/37
*BUCH/ 23.02.78 BUCHHOLZ A A92 D12 *DT 2807-696
Prefabricated, monolithic suspension ring for long sausages - 64816B/36
BUCL 25.10.77 BUCKMAN LABS INC A97 D15 E11 M14 =J5 4095-648
Compsn. used to prevent corrosion and incrustation in aq. systems - 44129A/25
BUHL 23.09.75 BUHLER GEBR AG D17 =DS 2642-628
Starch and gluten prodn. from wheat, rye or barley - 22244Y/13

*CADB 23.12.77 CADBURY TYPHOO D13 *GB 2014-839
Mfr. of textured vegetable protein with a paste like consistency - 65087B/36
CALG 21.12.73 CALGON CORP D18 =DS 2460-650
Tobacco smoke filter material for removal of hydrogen cyanide - 44103W/26
*CALG 30.10.74 CALGON CORP A97 D15 (A14) *CA 1061-022
Conditioning aq. waste sludges for dewatering - 64764B/36
CAMP- 07.07.77 CAMPBELL SOUP CO D13 #GB 1552-091
Texturised protein chunks mfr. - 55774Y/31
CARO 30.12.77 CARBORUNDUM CO D15 E36 J01 =J5 4094-494
Hard granular activated carbon for water treatment - 35108B/18
CART- 16.08.76 CARTER R B CO D15 =CA 1061-021
Bracket for fixing mixer sleeve over aeration pipe - 72276Y/40
CASS 23.12.77 CASSELLA FARB MAINK AG A87 D18 E19 F06 =J5 4095-988
Compsn. for treating cellulosic textiles and leather - 49263B/27
CHAJ/ 20.02.78 CHAJUSS D D13 =NL 7900-645
Edible, fibre-contg. prod. from soybean husks - 63390B/35
CHAM/ 17.02.78 CHAMBE M C03 D13 (C04 D15) =GB 2014-976
Heat sterilising plant for organic waste using hot air - 65802B/36
*CHAM/ 17.02.78 CHAMBE M C03 D13 (C04 D15) *NL 7901-177
Heat sterilising plant for organic waste using hot air - 65802B/36
CHAR/ 21.11.77 CHARM S E B04 D13 J04 =J5 4096-098
Detection of antibiotics in liquid samples e.g. milk, body fluid - 24010B/13
CHEM- 15.07.76 CHEMAP AG D16 =DS 2722-921
Animal and human tissue cells cultivator - 06659A/04
*CHER/ 03.11.76 CHERNYAEV N P C03 D13 *SU -635-952
Dried powdered animal feed concentrate mfr. - 66147B/36
CHET 05.04.73 CHEMETRON CORP D12 J07 =J7 9022-798
Carbon dioxide snow generator - 36177V/19
CHIA 14.06.72 CHISSO ASAHI HIRYO KK C04 D16 =J7 9022-900
Fermentation waste fertilizer - 44357V/24
*CHIT/ 11.02.76 CHITTENDEN J B D15 *GB 1551-919
Macerator for sewage with rotating blade - 65081B/36
CIBA 29.12.77 CIBA GEIGY AG B07 C03 D13 J04 =J5 4096-479
Prodn. of granulates - 52850B/29
CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) =DT 2906-416
Elimination of heavy metal ions from waste waters - 63162B/35
CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) =GB 2014-977
Elimination of heavy metal ions from waste waters - 63162B/35
*CIGA 21.04.78 CIGARETTE COMPONENT LTD D18 F07 *BE -875-736
Cigarette filter additives carried on preimpregnated threads - 64740B/36
CLBC 26.09.75 CALBIOCHEM B04 D16 J04 =CA 1060-765
Creatine phosphokinase isoenzyme differential assay - 94064X/50
CNSM 24.06.76 CENTRALE SUIKER MIJ NV D15 =US 4165-285
Anaerobic sewage treatment - 02580A/02
COIL/ 23.11.77 COILLET D W D15 =J5 4093-847
Potable water prodn. from ground water - 57895B/31
COLG 01.03.74 COLGATE PALMOLIVE CO D25 E34 F06 (E14) =CA 1060-604
Softening, bleaching and anti-static compsn. - 47752W/29
COLG 02.12.76 COLGATE PALMOLIVE CO D25 E19 =GB 1551-587
Elastic washing agent in piece form - 42523A/24
*COLG 01.07.77 COLGATE PALMOLIVE CO B05 D21 *US 4165-368
Non-spattering dental prophylactic paste - 66291B/36
*COLG 26.01.78 COLGATE PALMOLIVE CO B05 D21 *US 4165-366
Silicate based dental prophylactic paste - 66290B/36

•COMS 25.11.77 COMMISS ENERGIE ATOMIQUE D15 J01 •FR 2409-779
Desalination of sea-water etc. by low temp. distillation - 65038B/36
•COMS 01.03.78 COMMISS ENERGIE ATOMIQUE D16 J04 K07 •EP ---3-936
Automatic handling appts. for weighing - 65030B/36
•CONF= 01.04.77 CONFECTIONERY IND D13 •SU -635-950
Caramel based confection prodn. - 66145B/36
•CONO 13.03.78 CONTINENTAL OIL CO A97 D16 H01 •US 4165-257
Improving filterability of bio-polymers used in oil recovery - 66233B/36
COOP- 18.01.78 COOPERATION PHARMAC D13 =SW 7900-413
Ingestible compsn. contg. vegetable fibre and metallic proteinate - 52560B/29
COOP- 16.02.78 COOPER SA A96 D21 =EP ---3-855
Tooth paste for controlling tooth brushing time - 35161B/18
CORG 14.09.77 CORNING GLASS WORKS D16 =J5 4095-785
Composites of microbes bound to porous support - 24332B/13
•CORG 24.02.78 CORNING GLASS WORKS D15 E17 J01 (E36) •GB 2014-868
Porous hydrophobic inorganic membrane - 65097B/36
•CORG 24.02.78 CORNING GLASS WORKS D15 •GB 2014-979
BOD determn. and processing of organic waste in aq. medium - 65107B/36
CORP 04.10.74 CPC INTERNATIONAL INC D17 E13 (D16) =CA 1060-824
Invert sugar prodn. - 38925X/21
CORP 04.10.74 CPC INTERNATIONAL INC D17 E13 J01 =CA 1060-825
Heavy metal ions removal from dextrose soln. - 30493X/17
CORP 04.10.74 CPC INTERNATIONAL INC D17 E13 J01 =US 4165-240
Heavy metal ions removal from dextrose soln. - 30493X/17
CROA/ 17.02.78 CROASDELL D F D12 =NL 7901-269
Separating the cheek muscles of a pigs head - 63417B/35

DAII 20.10.71 DAIICHI KOGYO SEIYA A25 D23 =J7 9023-040
Gel-like urethane resins - 59000U/40
•DAII 05.01.78 DAIICHI KOGYO SEIYAKU D13 •J5 4093-686
Powdered emulsifying foaming agent - 65303B/36
•DAII 12.01.78 DAIICHI KOGYO SEIYAKU D13 E13 •J5 4095-748
Sucrose fatty acid ester compsn. - 65617B/36
•DAII 12.01.78 DAIICHI KOGYO SEIYAKU D11 E17 •J5 4095-987
Powdery foaming agent for food industry - 65662B/36
DAIN- 29.05.69 DAI-NIPPON SUGAR MF D17 E13 =NL -161-166
Fatty acid esters of saccharose - 89640R/48
DALL/ 26.04.76 DALLAMORE L E D15 H03 J01 =CA 1060-808
Ship with hold adapted for oil sepn. - 08108A/04
DALM- 14.09.76 DALMOR PRZED POLOWOW DAL D12 =GB 1551-667
Treating shell fish esp. krill to obtain the whole muscles - 04209A/03
DASP- 17.02.78 DANSKE SPRITFABRIK D13 E34 =NL 7901-176
Peeling fruit and vegetables - 63401B/35
•DAUC 22.02.77 DAIICHI PHARM KK D21 E16 •J5 4095-737
Stabilising carpronium chloride against hydrolysis - 65613B/36
•DEGM 02.03.78 DEGREMONT SA D15 J01 •BE -874-542
Continuous treatment of spent ion exchange resins - 64705B/36
DEGS 31.10.77 DEUTSCHE GOLD & SILBER D25 E34 =DS 2748-783
Stabilisation of sodium percarbonate particles against moisture - 33354B/18
•DIAN- 29.05.73 DIANIS CREATIONS A96 D21 •US 4165-385
Water-in-oil skin moistening emulsion - 66298B/36
DJUR/ 01.04.76 DJURO C B06 D21 E34 #CA 1060-800
Antiinflammatory compsns. - 73206A/41
•DNIN 12.01.78 DAINIPPON INK CHEM KK D13 (A16) •J5 4095-770
Fermented milk food prodn. - 65622B/36
•DOUW 16.02.78 DOUWE EGBERTS KON D13 •DT 2905-372
Improving organoleptic properties of vapour distillate - 64900B/36
DOUW 16.02.78 DOUWE EGBERTS KON D13 =NL 7801-778
Improving organoleptic properties of vapour distillate - 64900B/36
•DRAG- 22.02.78 DRAGOCO GERBERDING D23 E15 •DT 2807-584
Fixative for perfume compsns. - 64806B/36
DRAG- 22.02.78 DRAGOCO GERBERDING D23 E15 =NL 7901-038
Fixative for perfume compsns. - 64806B/36
•DROU/ 22.02.78 DROUET J C D11 •DT 2907-129
Loading and unloading trolley for multistage baking oven - 64932B/36
DUPO 16.12.75 DU PONT OF CANADA L D13 (D23) =GB 1552-012
Separating comminuted plant material contg. protein into fractions - 45552Y/26
DURO 29.07.66 FA DURODONT S B05 D21 E37 =NL -161-058
Alcohol-colloidal sio2 toothpaste - 40367F/00
DYNL 08.12.75 DYNAPOL A14 B07 D13 E24 =GB 1550-490
Ethyl sulphonate-alkylamine copolymers - 27183Y/16

EBAI 07.12.72 EBARA INFILCO KK D15 =J7 9023-505
Polymeric coagulants deactivation - 18220W/11
EBAI 13.02.74 EBARA INFILCO KK D15 =DS 2505-794
Water purification using activated carbon - 56041W/34
ECOL- 19.06.72 ECOLOTROL INC D15 =NL -161-115
Denitrifying waste liquids - 00655V/01
•ECON 07.02.78 ECONOMICS LAB INC D25 •EP ---3-769
Detergent contg. article for automatic washing machines - 64962B/36
•ENER 03.04.76 ENERGIAGAZDALKODASI D13 •HU T016-867
Preserving proteinaceous plant materials - B/36
•ENER= 06.01.76 ENERGOTSVETMET ASS D15 E32 M25 •SU -635-946
Heavy metal-contg. industrial waste water purificn. - 65951B/36
ESSO 15.12.77 EXXON RES & ENG CO D15 J01 =J5 4093-673
Regeneration of anion and cation exchanger resins - 47439B/26

FARB 13.09.77 BAYER AG C03 D16 E13 (D13 D17) =J5 4095-791
Continuous sucrose conversion to iso:maltulose - 22393B/12
FARB 26.11.77 BAYER AG A94 D22 F01 (A14 A96) =FR 2410-063
Dry spun hydrophobic fibres with high water retentivity - 42564B/23
FARB 21.02.78 BAYER AG A97 B05 D16 (A14) =EP ---3-786
Phenyl-glycine derivs. enzymatic optical resolution - 63329B/35
FARH 19.09.77 HOECHST AG D15 E19 M14 =J5 4095-942
Anticorrosion compsn. for ferrous metals - 22078B/12
FAZE- 16.01.78 FAZER AB D13 =SW 7800-463
Continuous deodorisation of cocoa butter - 54855B/30
FEIK/ 02.10.68 FEIKENS H B07 C03 D13 =NL -161-043
Process for impregnating plant seed with pharmaceuticals - 23209R/1
FILT 24.02.78 FILTERS INT INC A91 D15 #DT 2808-054
Water purificn., esp. of sewage - 36436A/20
•FINN- 28.02.78 FINNPIPETTE OSMO SU B04 D16 J04 •DT 2905-558
Automatic measurement of agglutination test samples - 64904B/36
FISC/ 22.11.77 FISCHER K O D17 H03 J01 (H06) =J5 4095-991
Absorbents for oil comprising cellulosic fibres - 40962B/22
•FLEM- 06.09.78 FLEMING-POTTER CO D16 •US 4164-902
Wine fermentation tank with inner perforated screen - 66181B/36
FMCC 06.08.73 FMC CORP D22 E13 =DS 2436-589
Sodium dichloro isocyanurate bactericide tablets - 12723W/08
•FOES/ 28.11.77 FOESSEL F D15 •FR 2409-963
Gravity filtration of water for drinking or mfr. of minerals - 65055B/36
•FOLD- 27.02.76 FOLDMERO ES TALAJVI D15 •HU T016-891
Processing mineral or other ground waters - B/36
•FOOD= 14.09.77 FOOD IND CORRESP IN A88 D16 •SU -635-129
Stable brandy-type spirit prodn. - 66030B/36
FORE- 15.10.75 FORENEDE BRYGGENER AS D16 E13 =US 4165-387
Brewing beer of better storage stability - 12818Y/08
FORT- 03.03.70 VEB KOMB FORTSCHRIT D11 #NL -161-038
Strand dough divider knives - 17374S/10
FREU- 06.11.70 FRANCO-EURO MAT IND D13 =DS 2153-710
Waste removal from beans - 32155T/20
•FRID/ 12.04.76 FRIDMAN R A A21 D15 •SU -635-048
Epoxy resin prodn. waste water purificn. - 65953B/36
•FRNG 24.02.78 FRINGS H FA D16 J01 •DT 2808-022
Ultrafiltration circuit with recirculation - 64839B/36
FRNG 24.02.78 FRINGS H FA D16 J01 =GB 2014-872
Ultrafiltration circuit with recirculation - 64839B/36
•FUKO 30.12.77 FUJI OIL KK A92 D13 •J5 4095-749
Prepn. of synthetic resin film, coated with soybean protein - 65618B/36

GENA 10.06.77 GAF CORP A96 D21 (A14) #US 4165-367
Hair setting and conditioning compsn. - 00430B/01
GENM 23.11.77 GEN MILLS CHEMICAL A11 D22 E16 (A14 A96) =FR 2410-019
Hydrolysed grafted starch-polyacrylonitrile copolymer mixture 01981B/02
GENO 29.08.77 GENERAL FOODS CORP D13 E24 =US 4165-390
Solubilising erythrosine food dye under acid conditions - 01971B/02
GEOC- 15.02.78 GEN OCCIDENTALE SA D13 =BE -874-198
Fresh spice plant preservation - 61756B/34
GIVA 10.11.70 GIVAUDAN L & CIE SA D23 E15 =NL -161-126
Carbocyclic odourants - 33725T/21
GIVA 17.03.72 GIVAUDAN L & CIE SA D23 E15 =J7 9022-968
Perfumery compsns - contg 3-isopropyl - 60546U/41
GIVA 15.03.73 GIVAUDAN L & CIE SA D13 E13 (D23) =NL -161-151
4,7-Dihydro-2-(3-pentyl)-1,3-dioxepin - 53513V/29
GIVA 09.09.74 GIVAUDAN L & CIE SA D16 E15 =HU T016-896
Humulones e.g. cohumulone from oxidation of desoxy cpds - 22639X/1
GIVA 25.11.77 GIVAUDAN L & CIE SA D23 E14 =FR 2409-976
Substd. di:hydro-cinnamaldehyde perfume prepn. - 42697B/23
GIVA 25.11.77 GIVAUDAN L & CIE SA A60 C02 D22 E13 =J5 4095-564
Antibacterial, fungicidal isothiazole derivs. - 44253B/24
GIVA 12.12.77 GIVAUDAN L & CIE SA D23 E15 =J5 4095-547
1-Methyl-1-acetoxy-cyclohexane derivs. - 47481B/26
•GLED/ 18.04.78 GLEDITZSCH I J D23 •BE -875-681
Sepn. of untreated animal fat into water grease, and tissue - 64727B/36
GOLD 28.07.77 GOLDSCHMIDT TH AG B05 C03 D13 E17 =DS 2734-059
Lactic acid, citric acid and fatty acid partial glyceride mixed ester 86200A/48
•GORB/ 01.03.77 GORB G D D18 •SU -635-958
Tobacco leaf threading machine for needle box - 66152B/36
GRAI 09.12.77 GRAIN PROCESSING CORP D16 =US 4165-388
Prepn. of roasted non-malted barley - 27923B/15

HAGE/ 14.09.76 HAGER J D12 =US 4165-045
Frozen metal block cutting machine - 36719A/21
HARR/ 21.09.77 HARRIS E G A35 D23 E13 (A23) =US 4165-321
Hetero-macrocyclic perfume ingredients - 08055B/05
HATS 25.02.77 NHK SPRING KK A26 C03 D21 G02 (G03) =J7 9023-720
Carboxylate polyurea electrolyte - 63800A/36
HAUN 26.11.77 HAUNI-WERKE KORBER KG D18 =FR 2409-796
Applicator esp. for bronze powder to cigarette paper - 42574B/23
HAYB 14.01.78 HAYASHIBARA BIOCHEM B04 D16 *J5 4096-093
Determn. of alpha-amylase activity in biological fluids etc. - 65681B/36
HEES/ 22.02.78 HEESS K D H D22 *DT 2807-617
Sterilising beverage bottles - 64809B/36
HENK 29.03.71 HENKEL KG AUF AKTIEN A97 D25 E19 (A26) =DS 2115-082
Anti-foaming agent - 68580T/43
HENK 09.07.75 HENKEL KG AUF AKTIEN D22 E17 (E19) =US 4165-375
Lower alkyl laurates as foam inhibitors - 05914Y/04
HENK 02.04.77 HENKEL KG AUF AKTIEN D21 E33 =DS 2714-954
Employing water-insol. aluminosilicate particles in shampoo - 72703A/41
HENK 20.01.78 HENKEL KG AUF AKTIEN B03 C03 D13 (C02) =DK 7900-017
Animal feed mixt. for poultry, pigs, etc. - 56404B/31
HENZ 18.04.75 HEINZ PERRIER SA A92 D16 =CA 1060-819
Sterilisable bag for prodn of mushroom spawn - 79411X/43
HERT/ 20.01.78 HERTTUA K D13 =DK 7900-170
Drink prepd. by water extn. of wood bark and sap - 39012B/21
HERT/ 20.01.78 HERTTUA K D13 =NO 7900-206
Drink prepd. by water extn. of wood bark and sap - 39012B/21
HERT/ 20.01.78 HERTTUA K D13 =SW 7900-215
Drink prepd. by water extn. of wood bark and sap - 39012B/21
HIEJ 11.01.78 HITACHI PLANT ENG CONST D15 J01 *J5 4094-476
Filter for waste liq. contg. tar and small, solid flocs - 65375B/36
HITA 18.10.76 HITACHI KK D15 =DS 2746-752
Anaerobic decomposition of biochemical waste - 30564A/17
HITA 06.01.78 HITACHI KK D15 *J5 4093-671
Appts. for sepg. sludge from waste water - 65296B/36
HITB 13.01.78 HITACHI CHEMICAL KK A88 D15 *J5 4096-261
Advanced treatment of waste waters having high BOD value - 65702B/36
HOFF 12.10.72 HOFFMANN-LA ROCHE AG C02 D13 =J7 9022-920
Antibacterial treatment of fish food - 34013V/18
HOFF 21.06.74 HOFFMANN-LA ROCHE AG B02 D22 =SU -635-873
3-(Heterocyclylthio methyl) cephalosporins - 01980X/02
HOFF 12.09.77 HOFFMANN-LA ROCHE AG B05 D13 E17 (D16) =J5 4095-790
D-Arabitol prepn. by Pichia haplophila microorganism fermentation - 22403B/12
HOFF 09.12.77 HOFFMANN-LA ROCHE AG D21 E13 =J5 4095-738
Cosmetic prods. contg. pyridine thiol cpds. and acetyl cysteine - 44049B/24
HOFF 24.01.78 HOFFMANN-LA ROCHE AG B05 D16 E17 (D13) =DK 7900-292
Dextro-arabitol sweetener prepn. - 61795B/34
• HOFF 27.02.78 HOFFMANN-LA ROCHE AG A96 B04 D16 J04 *GB 2015-157
Immunochemical assay of LDH-1 isoenzyme in serum - 65128B/36
• HORI- 31.12.77 HORIBA SEISAKUSHO D15 E32 J04 M25 *J5 4094-095
Electrochemical determn. of cadmium ion concn. esp. in waste water - 65336B/36
HOST 04.09.73 HOLLISTER INC A96 D22 =DS 2441-627
Protective gel for colostomy appliances - 19615W/12
HOUT/ 28.11.77 INT HOUT C W D14 =FR 2409-694
Cheese rind planing machine - 42631B/23

• ICIL 21.02.78 IMPERIAL CHEM INDS LTD A31 D16 J04 *EP ---3-906
Chemical processes using thin-film reactor - 65015B/36
• ICIL 21.02.78 IMPERIAL CHEM INDS LTD A31 D16 J04 *EP ---3-907
Chemical processes using thin-film reactor - 65016B/36
ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 =DT 2906-490
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 =GB 2015-051
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
IIZU/ 25.09.76 IIZUKA C D16 =J7 9022-916
Accelerating growth of laver during cultivation - 39400A/22
INFL 18.08.69 INT FLAVORS & FRAGR INC D23 E14 =NL -161-127
Indane derivs as odorants - 08121S/04
INFL 18.08.69 INT FLAVORS & FRAGR INC D23 E14 =NL -161-129
Indane derivs as odorants - 08121S/04
INFL 18.08.69 INT FLAVORS & FRAGR INC D23 E14 =NL -161-148
Indane derivs as odorants - 08121S/04
INFL 15.10.74 INT FLAVORS & FRAGR INC A97 B07 D13 =CA 1060-701
Chewing gum contg. flavour oils in two forms - 81408W/49
• INFL 03.05.78 INT FLAVORS & FRAGR INC D23 E15 *US 4165-301
Use of terpene dimer(s) as perfume diluents - 66255B/36
INGR- 29.11.77 INGREDIENT TECHN D17 (D13) =FR 2409-789
Agglomeration of powdered solids, e.g. carbohydrate(s) - 42722B/23
INGR- 29.11.77 INGREDIENT TECHN D17 (D13) =J5 4093-674
Agglomeration of powdered solids, e.g. carbohydrate(s) - 42722B/23
INLI 31.05.73 INSTRUMENTATION LAB INC B04 D16 =CA 1060-826
Large scale, safe cell propagation - 85951V/50
INPB 20.01.75 INT PAINT CO A82 C03 D22 G02 (A26) =DS 2601-928
Growth-inhibiting coatings for surfaces immersed in sea water 58203X/31
• INPO- 31.10.73 IND POLLUTION CONT D15 *US 4165-283
Multistage liq. purificn. system - 66247B/36
INTF 01.05.74 INST TEXTILE DE FRANCE D23 E13 =DS 2516-809
Isochromans prodn from 3-arylpropan-1-ols - 70510W/42
INTM 22.08.75 INT MINERALS & CHEM CORP B02 C02 D16 =GB 1551-783
Recovery of zearalenone from fermentation liquors - 00047Y/01
• ISHI 14.01.78 ISHIKAWAJIMA-HARIMA HEAV A88 D15 J01 (A11 A32) *J5 4096-486
Appts. for continuous prodn. of semipermeable membrane - 65747B/36
ITDI- 25.11.77 INT DIAGNOSTIC TECH A96 B04 D16 J04 =FR 2410-278
Surface immunoassay with two different test surfaces - 42821B/23
• IVAN/ 01.06.77 IVANCHENKO I S D14 *SU -634-785
Food cutter and grinder - 65852B/36
• IVAN= 13.06.75 IVANOVO CHEM TECH C04 D11 E35 *SU -635-042
Ammonium carbonate prodn. for bread, fertilisers etc. mfr. - 65947B/36

JAEG/ 19.01.78 JAEGER K H B04 D16 =DK 7900-227
Antiblastic immunological preparations - 39018B/21
JAEG/ 19.01.78 JAEGER K H B04 D16 =NO 7900-177
Antiblastic immunological preparations - 39018B/21
JAEG/ 19.01.78 JAEGER K H B04 D16 =SW 7900-421
Antiblastic immunological preparations - 39018B/21
JANC 27.01.75 JANSSEN PHARMACEUT NV B03 C02 D22 =HU T016-923
Fungicidal and bactericidal imidazole derivs - 60212X/32
JAPC 13.05.74 JAPAN CATALYTIC CHE D22 E37 (E19) =J7 9022-790
Malodorous sulphur-contg. cpds. sepn. from waste gas - 13117A/07
• JAUP/ 25.11.77 JAU P H L D15 J02 *FR 2409-790
Device for dissolving solids into liq. stream - 65041B/36
JETC- 01.08.77 JET CERAMIC DENTAL D21 =BE -875-785
Dental prosthesis working model prodn. - 15961B/08
JOHJ 20.10.75 DEVRO INC D12 =CA 1060-703
Sausage stuffing horn - 25574B/13
JOHJ 03.03.76 JOHNSON & JOHNSON D22 =GB 1551-671
T-Shaped cardiovascular surgical drape with 2 fenestrations - 43109Y/24
JOHJ 21.02.78 JOHNSON & JOHNSON A97 D22 F09 =GB 2015-055
Absorbent pad for disposable napkins, sanitary towels etc. - 63155B/35
JOHJ 21.02.78 JOHNSON & JOHNSON A97 D22 F09 =NL 7901-380
Absorbent pad for disposable napkins, sanitary towels etc. - 63155B/35
JOHJ 27.02.78 JOHNSON & JOHNSON B05 D21 (B06) =GB 2014-851
Topical compsn. comprising glycerine soln. of zinc chloride - 56250B/30
JOHO 13.02.78 JOHNSON MATTHEY LTD B04 D16 E31 J04 =DT 2905-450
Osmium and ruthenium amine nitride complex salts - 63503B/35
• JUDO- 22.02.78 JUDO WASSERAUFBEREI D15 *DT 2807-635
Domestic water softening plant controller - 64810B/36
JUNG- 04.02.72 JUNGBUNZLAUER SPIRI D16 E12 =DS 2305-149
Trisodium or tripotassium citrate - 45330U/32

• KANE 23.02.78 KANEBO KK A96 D21 E17 *GB 2014-852
Lipstick having core and sheath - 65092B/36
KAOS 17.12.73 KAO SOAP KK D25 E19 (E34) =J7 9023-364
Detergent-bleach compsns. - 00928X/01
KAOS 11.09.75 KAO SOAP KK D21 E19 =US 4165-369
Liq. hair rinsing compsn. giving softness and body - 22158Y/13
KAOS 25.06.76 KAO SOAP KK A97 D25 E19 =J7 9023-005
Chemical cleaning compsn. - 04579A/03
KAOS 07.07.76 KAO SOAP KK B01 D23 =US 4165-327
Purifying lanolin cpds. to reduce allergy reactions - 02105A/02
KAPA 26.11.75 KANSAI PAINT KK A97 B04 D16 =GB 1550-465
Immobilising enzymes or microbial cells - 41978Y/24
• KARP/ 16.07.75 KARPINSKII YU I D15 H03 *SU -634-758
Ship's petroleum-contg. water purifier - 65830B/36
KATA 18.06.74 KATAKURA IND KK C02 D13 =J7 9022-909
Silkworm feed with growth promoting activity - 19396X/11
KATZ/ 25.11.77 KATZEN S C03 D13 #FR 2409-704
Animal feedstuff from waste cellulose and/or lignin - 85161Y/48
KAWA- 09.08.76 KAWAZU SANGYO KK D17 =J7 9022-962
Improvement of fruit sugar deliquescence - 27553A/15
• KEMI- 28.10.77 KEMI OY D17 E17 F09 (E13) *SW 7811-162
Xylan, xylose and xylitol prodn. - 66167B/36
KERJ 30.11.77 KERNFORSCHUNGS JULICH D15 E35 K07 (E16) =J5 4095-900
Treatment of waste soln. contg. ammonium nitrate - 42412B/23
• KIFO= 18.07.77 KIEV FOOD IND TECHN D16 (D13) *SU -635-127
Prodn. of malt extract for dietary or medicinal food mfr. - 66028B/36
KIKU/ 04.11.75 KIKUHARA I D11 =US 4165-386
Bread mfr. without antimould agent esp. sodium or calcium propionate - 18220Y/11
KLEI/ 15.09.77 KLEIN M A25 D15 F09 J01 (A94 A97) =J5 4095-670
Particulate polyurethane foam tripodal strands - 33742B/18

•KLEI/ 10.02.78 KLEIN J A96 B04 D16 (A14) *DT 2805-607
Bio-catalyst prodn. in polymer matrix - 64776B/36
KOBM 28.11.77 KOBE STEEL KK D15 M14 (M26 M27) =FR 2410-056
Reactive anode preventing corrosion of copper alloys - 42638B/23
•KOBM 17.01.78 KOBE STEEL KK D15 E36 J01 *J5 4096-476
Treating waste soln. from wet type desulphurising process - 65739B/36
•KOEI 05.01.78 KOEI CHEM IND KK D15 F09 J01 *J5 4093-688
Adsorbent for waste water contg. organic substances - 65305B/36
•KOGY 12.01.78 IND RES INST OF JAPAN D16 *J5 4095-788
Prepn. of algae of adhesive diatomeae - 65624B/36
•KOMP= 18.07.77 KOMPLEKS POULTRY D13 *SU -634-728
Liquid foodstuffs vacuum dryer feeder - 65813B/36
KORN- 26.05.77 FA KORN E A21 D15 M14 (A97) =DS 2723-779
Preventing corrosion and scale deposition in water-conduits - 88011A/49
•KRAT 25.04.78 BIZERBA-WERKE KRAUT KG D12 *BE -875-796
Stabilising animal carcasses suspended on balance - 64755B/36
KRFT 02.09.75 KRAFTCO INC D13 =GB 1550-434
Continuous prodn. line to mfr. processed cheese - 02074Y/02
KROF/ 09.01.78 KROFCHAK D D16 L02 M11 (M25) #J5 4094-754
Waste liquids and sludge treatment - 88321A/49
•KSPO= 18.03.77 KISH POLY D18 *SU -635-957
Tobacco leaf drying frame - 66151B/36
•KUIB 17.02.76 KUIBYSHEV POLY D15 *SU -635-045
Deaerator for boiler feed water, etc. - 65950B/36
•KUNT/ 24.11.77 KUNTZ E D16 *FR 2409-971
Portable bin for mfg. of garden compost from vegetable waste - 65057B/36
•KURB/ 14.09.76 KURBATOV A S D13 *SU -635-955
Onion skinning apparatus - 66150B/36
•KURG= 10.05.77 KURGAN SINTEZ C03 D16 *SU -635-943
Compsn. for treating grain before sowing - 66139B/36
KURS 12.11.76 KURARAY KK D13 =US 4165-392
Protein-contg. fibrous foodstuff prepn. - 36844A/21
•KURS 10.01.78 KURARAY KK A14 D22 (A96) *J5 4094-564
Prepn. of polymer for forming bandage like membrane - 65427B/36
•KVAS/ 06.12.76 KVASHA V B A32 D15 F01 *SU -634-764
Synthetic fibre mfr. waste water purificn. - 65835B/36
KYOW 21.12.77 KYOWA HAKKO KOGYO B03 D16 E13 (D22) =J5 4095-548
Amino:glucoside antibiotic fortimicin E - 47156B/26
•KYOW- 09.01.78 KYOWA KAGAKU KOGYO D15 E36 *J5 4093-854
Removal of phosphoric acid (salts) from waste water - 65317B/36
•KZEN= 24.12.75 KAZAN ENG CON INST D15 J04 *SU -634-761
Device for magnetic treatment of water - 65832B/36

LAND- 19.10.77 LANDUSTRIE SNEEK D15 =FR 2409-788
Aerator with vertically adjustable drive mechanism - 31567B/17
LANK 19.01.78 LANKRO CHEMICALS LTD A97 D25 =NO 7900-168
Cleansing mixt. forming quick-breaking emulsion with oil - 56559B/31
LANK 19.01.78 LANKRO CHEMICALS LTD A97 D25 =SW 7900-457
Cleansing mixt. forming quick-breaking emulsion with oil - 56559B/31
•LECO/ 23.11.77 LECOEUR R A J D15 *FR 2409-782
Flocculation plant for purificn. of waste water - 65039B/36
•LECO/ 23.11.77 LECAEUR R A J D15 *FR 2409-966
Decanting separator for flocculated waste water to be clarified - 65056B/36
LEIP- 28.12.72 VEB CHEMIEANLAGENBA D15 =SU -634-772
Recycling aerator - 38313V/21
•LEME= 03.12.75 LENGD MEAT IND PROD D12 *SU -635-947
Sausage products processing carrier - 66143B/36
•LEME= 25.07.77 LENGD MEAT IND PROD D12 *SU -634-926
Device for cutting meat into pieces - 65929B/36
•LIFO= 12.01.77 LITH FOOD IND DES D13 *SU -635-951
Canned dietetic food mfr. - 66146B/36
LIOY 30.10.70 LION FAT & OIL KK D15 E37 =DS 2154-105
Effluent water treatment - 32770T/21
LIOY 18.09.71 LION FAT & OIL KK A88 D25 E19 J04 =NL -161-119
Sulphonation appts - 19075U/14
•LIOY 17.02.78 LION FAT & OIL KK A97 D25 E19 (A25 E33) *DT 2906-074
Liq. cleaning compsn. e.g. for heavy duty cleaning - 64914B/36
•LOCH- 16.02.78 LOCHER & CIE AG D15 *EP ---3-787
Sewage plant aerating device - 64968B/36
LOGA- 06.02.78 LOGAN SRL A96 D21 E17 (A26) =DS 2831-341
Non-foaming emollient for shaving - 60235B/33
LUTH/ 11.06.75 LUTHY E D18 =GB 1550-385
Twice tanned leather for upholstering furniture and cushions - 81255X/44
LYCK 18.10.77 LYCKEBY STARKEISOFORADIN D13 =J5 4095-760
Enzyme hydrolysis of whole grain esp. wheat - 16027B/09

•MAAS/ 20.01.78 MAASS R D12 *DK 7800-289
Appts. for cutting off slices of salmon - B/36
MACA- 25.11.77 MACANDREWS & FORBE B05 D13 E19 =FR 2409-757
Low calorie food sweetener compsn. - 42700B/23
MACA- 25.11.77 MACANDREWS & FORBE B05 D13 E19 =FR 2409-758
Sweetener for food and drinks - 42699B/23
MANC/ 28.02.78 MANCHAK F D15 #DT 2808-489
Treating waste sludges with calcium oxide - 28632A/15
•MAQU- 23.11.77 FAB MAQUINAS SA D15 *US 4164-854
Desalination process using atomised mercury as refrigerant - 66174B/36
•MARI= 23.05.75 MARII BR CELL PAPER D15 F09 *SU -634-793
Purification of paper mill effluent waters - 65859B/36
MASI 20.01.75 MASSACHUSETTS INST TECH B03 D16 =CA 1060-821
Antibacterial 2-deoxy-streptomycin - 39780X/21
•MASI 07.03.77 MASSACHUSETTS INST TECH B02 D16 *J5 4067-097
Cephalosporin prodn. from penicillin - 65136B/36
MCDD 03.05.76 MCDONNELL DOUGLAS CORP B04 D16 J04 =CA 1060-764
Broth for detection of Escherichia coli in biological fluids - 61212Y/35
•MEIP 11.01.78 MEIJI MILK PRODS KK D13 (D17) *J5 4095-745
Simultaneous refining of lactose and casein - 65615B/36
•MEIT 12.01.78 MEITO SANGYO CO KK D16 E12 *J5 4095-607
Metallic soap prodn. - 65541B/36
MERE 16.02.78 MERCK PATENT GMBH D13 =BE -874-188
Low decomposition rate granulated dietetic foodstuff - 63486B/35
MERE 16.02.78 MERCK PAT GMBH D13 =DT 2806-514
Low decomposition rate granulated dietetic foodstuff - 63486B/35
MERE 16.02.78 MERCK PATENT GMBH D13 =NL 7901-215
Low decomposition rate granulated dietetic foodstuff - 63486B/35
•MERI 29.08.75 MERCK & CO INC B02 C03 D16 E13 (D13) *US 4165-250
Recovery of purified riboflavin from fermentation broths - 66229B/36
•MERI 21.11.75 MERCK & CO INC B02 C02 D13 E13 (D22) *US 4165-379
N-Acetyl-thienamycin - 66295B/36
MERI 17.10.77 MERCK & CO INC A11 D16 G02 L02 =J5 4095-792
Hetero:polysaccharide obtd. by fermentation of a Klebsiella strain - 37532B/20
MERI 28.11.77 MERCK & CO INC B04 D16 =J5 4095-724
Pneumococcal vaccine contg. capsular polysaccharide - 44422B/24
MERI 29.12.77 MERCK & CO INC B05 D22 E14 =J5 4095-539
Salicylic acid derivs. prepn. - 03944B/02
•MESR 24.02.78 MESSERSCHMITT-BOLKOW-BLO D15 J02 *DT 2807-903
Introduction of gases into liquids - 64828B/36
METG 14.11.74 METALLGESELLSCHAFT AG C03 D23 (D13) =CA 1060-902
Oil recovery from plant material - 40283X/22
MINN 26.09.77 MINNESOTA MINING CO D21 M22 =J5 4095-907
Infiltrated, homogeneous metal object - 28158B/15
MINN 23.01.78 MINNESOTA MINING CO A96 D22 G03 (A14 A81) =DK 7900-247
Porous pressure-sensitive adhesive coated tape prodn. - 25856B/13
•MITK 21.02.69 MITSUI TOATSU CHEM INC C03 D13 *J7 9022-919
Fish feedstuff for e.g. carp, trout, eel or lobster - 65759B/36
MITK 22.05.75 MITSUI TOATSU CHEM INC A94 D15 F07 J01 (A18) =CA 1060-874
An oil collecting fibrous material - 02755Y/02
•MITO 13.01.78 MITSUBISHI HEAVY IND KK D15 J01 *J5 4096-252
Evaporating waste, hard water while avoiding scale formation - 65700B/36
•MITS- 14.01.78 MITSUBISHI JUSHI EN D15 *J5 4096-255
Conc. BOD effluent purificn. - 65701B/36
MITU 17.03.76 MITSUBISHI CHEM IND KK D16 E13 (D17) =GB 1552-032
Glucose isomerase preservation - 69271Y/39
MNKN 12.11.76 MINAMINIHON RAKUNO D13 =US 4165-392
Protein-contg. fibrous foodstuff prepn. - 36844A/21
•MOFA= 24.09.76 MOSC FAT RES INST D13 E17 (D11) *SU -635-088
Ester of higher fatty acid mono:glyceride and citric acid - 65990B/36
•MOMD 13.04.77 MOSCOW MEAT DAIRY INST D12 *SU -634-786
Meat mincer perforated disc - 65853B/36
•MOMD 21.07.77 MOSCOW MEAT DAIRY INST D13 *SU -634-795
Centrifugal separator for removing whey proteins - 65861B/36
•MOUX 28.02.78 MOULINEX SA D14 *GB 2014-865
Double whisk electric domestic beater support - 65095B/36
MRSC 12.01.71 MARS LTD C03 D13 =DS 2201-160
Meaty protein food - 46915T/29
MUND/ 18.02.78 MUNDY R E C03 D13 =DT 2906-375
Animal feeds contg. cement kiln flue dust - 47225B/26

NATR 18.04.72 NATIONAL RES DEV CORP A96 D21 =DS 2319-715
Dental cements - 69496U/46
NEST 03.10.74 SOC PROD NESTLE SA A97 D13 =CA 1060-700
Purifying aromatising compsns with polystyrene resins - 28571X/16
NHYD 19.03.74 NORSK HYDRO A/S C03 D13 E33 =CA 1060-631
Clacium phosphates of animal feed quality - 52431W/32
NIIG 24.09.76 NIIGATA ENG KK D15 =US 4165-281
Waste water treatment by biological contact oxidn. - 25659A/14
•NIIG 06.01.78 NIIGATA ENG KK D15 *J5 4093-670
Aeration of bacteria oxidn. bath for treating waste liq. - 65295B/36
•NIPJ 10.01.78 NIPPON JINYAKU KK A96 D22 (A14 D16 D17) *J5 4095-722
Poultice compsn. for treating neuralgia, stiff shoulder etc. - 65602B/36
NIRA 23.11.77 UNITIKA KK A96 B04 D22 (B05) #FR 2410-013
Polymer articles prodn. with reduced thrombogenic tendency 35543B/19
•NIRA 06.01.78 UNITIKA KK A96 B03 D22 *J5 4095-565
Phenyl-substd. 3,5-di:oxo:pyrazolidine derivs. - 65531B/36
•NIRA 06.01.78 UNITIKA KK A96 B03 D22 *J5 4095-566
Phenyl-substd. pyrazolone derivs. - 65532B/36

• NIRA 18.01.78 UNITIKA KK A97 D15 J01 (A26) *J5 4096-484
Prodn. of absorbent resin for heavy metal ions e.g. mercury - 65745B/36
NISC 31.07.75 NISSAN CHEM IND KK D15 E37 =J7 9023-189
Lowering COD of waste water - 20749Y/12
NISC 27.12.77 NISSAN CHEM IND KK D17 E12 F09 M12 (D16) =J5 4093-102
Removal of calcium oxalate encrustations - 49436B/27
• NISH- 12.01.78 NISHIYAMA GUM KK D16 *J5 4095-788
Prepn. of algae of adhesive diatomeae - 65624B/36
• NISO- 14.01.78 NIHON SOLID KK D15 *J5 4095-973
Waste water treating appts. - 65652B/36
• NKKA 10.01.78 NIKKI KAGAKU KK D23 *J5 4094-489
Nickel hydrogenation catalyst for fats and oils - 65385B/36
• NORD 25.02.78 NORDSTROM R B07 D13 *DT 2808-160
Tablets produced from chewing gum granulate - 64854B/36
NORM- 21.01.71 NORM AMC AG D15 =SU -634-658
Effluent treatment - 34304T/22
NOSA 21.11.74 NIPPON NOSAN IND KK C03 D12 =J7 9022-902
Bones-contg sausages prodn - 53238X/28
NPDC 10.05.76 NATIONAL PATENT DEV CORP A14 D22 (A96) #CA 1061-049
Water insoluble hydroxyethyl methacrylate hydrogels - 88385Y/50
NUTR- 22.02.78 NUTRIDAN ENG A/S D12 =NL 7901-284
Removing blood colour by sudden pressure drop - 63360B/35
• NWDA= 21.03.77 NW DAIRY MEADOWS C03 D13 *SU -634-730
Perennial bitter lupin processing - 65815B/36

• ODFO= 29.12.76 ODESS FOOD EQPT DES D14 *SU -634-732
Self-controlling plasmolyser for use in food industry - 65817B/36
• ODFO= 15.07.77 ODESS FOOD MACH DES D14 *SU -634-787
Mincer for extn. of medicinal cpds. e.g. from animal source materials - 65854B/36
• ONTO- 28.10.75 ONTODEI VALLALAT D22 *HU T016-874
Sterilising subassembly for aseptic storage units - B/36
OREA 19.02.73 L'OREAL SA D21 E14 =US 4165-336
Sulphonated benzylidene camphor derivs. - 61833V/35
OREA 20.09.77 L'OREAL SA A96 D21 =J5 4095-657
Cosmetic compsn. for hair or skin contg. cationic polymers - 22076B/12
OREA 23.09.77 L'OREAL SA A96 D21 =J5 4095-739
Aminated polymers used in hair and skin care products - 23958B/13
OREA 16.12.77 L'OREAL SA A96 D21 E13 =J5 4095-742
Cosmetic compsn. for reinforcing the nails - 45689B/25
• OSAK 30.12.77 OSAKA KAGAKU KOKIN KK A92 D13 *J5 4095-749
Prepn. of synthetic resin film, coated with soybean protein - 65618B/36
• OSTR/ 06.05.77 OSTROUMOVA N M B04 D16 *SU -635-131
Non-agglutinating vibrios strain identification - 66032B/36

• PACI= 11.04.77 PACIFIC OCEAN FISH D12 *SU -635-953
Cooked fish products prepn. - 66148B/36
• PETT/ 18.10.77 PETTERSSON L D12 *SW 7711-703
Electric shock appts. to stun pigs before slaughter - 66153B/36
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =J5 4095-585
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =J5 4095-587
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
• PHIP 12.08.68 PHILLIPS PETROLEUM CO A97 D16 H01 (H04) *US 3965-985
Microbial synthesis from oxygenated hydrocarbon feedstock - 66168B/36
PHIP 27.04.71 PHILLIPS PETROLEUM CO B04 D16 (D13) #J4 7039-696
Microbiological synthesis of proteins andamino acids - 67485S/42
PHIP 27.04.71 PHILLIPS PETROLEUM CO B04 D16 (D13) #J7 9022-519
Microbiological synthesis of proteins andamino acids - 67485S/42
• PINE- 28.11.77 PINETTE-EMIDECAU D17 *FR 2409-851
Press for sugar cane extn. - 65046B/36
• PLAN= 28.06.77 PLANTS BACT PREP D16 *SU -634-726
Entomopathogenic bacterial biomass prodn. - 65811B/36
POLQ 17.02.78 POLYSAR LTD A96 D22 =GB 2015-004
Foil-forming thermoplastic compsn. for orthopaedic use - 63399B/35
• POLT= 27.12.76 POLTAVA PIG FARMING B04 C03 D16 *SU -635-424
Determining activity of phosphofructokinase in animal sperm - 66113B/36
• POTA= 29.04.76 POTATO FOOD PROD D13 *SU -635-954
Mechanical peeling of potatoes and other vegetables - 66149B/36
POUE 29.12.77 POUDRES & EXPLOSIFS D23 E14 =J5 4095-525
2,4-di:nitro-6-tert-butyl-3-methyl-anisole from nitration mixts. - 53862B/29
POUE 29.12.77 POUDRES & EXPLOSIFS D23 E14 =J5 4095-526
Prepn. of 2,4-di:nitro-6-tert. butyl-3-methyl-anisole - 53863B/29
• POUL= 08.06.77 POULTRY VETER SCIE D16 *SU -635-130
Airborne microorganisms trap - 66031B/36
• PROC 05.09.75 PROCTER & GAMBLE CO A97 D25 E19 *US 4165-334
Zwitterionic surfactants contg. sulphonium gp. - 66275B/36
PROC 31.08.77 PROCTER & GAMBLE CO D25 E17 F06 =J5 4095-510
Continuous prodn. of di:peroxy:di:carboxylic acid(s) - 18404B/10
PROC 30.09.77 PROCTER & GAMBLE CO A97 D13 =J5 4095-773
Coffee prod. aromatisation article - 31940B/17
• PROC 28.02.78 PROCTER & GAMBLE CO D25 E19 *EP ---3-861
Detergent bleach compsn. effective under dark conditions - 64996B/36
• PROT= 26.07.77 PROTEIN BIOSYNTH RE D17 *SU -635-132
Prodn. of sugar soln. from cellolignin - 66033B/36
PURD 27.02.78 PURDUE RESEARCH FOUNDATI A97 D16 J01 =EP ---3-914
Dialysis compsn. for blood purification in artificial kidney - 63170B/35
PURD 27.02.78 PURDUE RESEARCH FOUNDATI A97 D16 J01 =GB 2014-873
Dialysis compsn. for blood purification in artificial kidney - 63170B/35

• RANB/ 27.10.77 RANBY M G C03 D13 *SW 7712-156
Milk substitute with reduced immunogenic protein content for babies - 66162B/36
RANG 17.09.75 RANK HOVIS MCDOUGAL LTD D13 (D12) =GB 1551-727
Meat and fish substitutes with a fibrous layered structure - 07588Y/05
RAPP/ 15.10.71 RAPPOLD E D22 =DS 2233-474
Ambulance air disinfection - 07491V/05
• RBTO- 29.10.75 RB TOY DEV CO A92 D14 *US 4165-061
Liquid confection freezing mould - 66199B/36
RHON 15.01.70 RHONE-POULENC SA B05 C03 D13 E24 (E14) =NL -161-140
Isozeaxanthin and its esters from retrodehyd - 49430S/30
RHON 16.01.78 RHONE-POULENC INDUSTRIES D17 (D16) =NO 7900-100
Xanthomonas polysaccharide(s) used to prepare aq. gels - 52555B/29
• RHON 16.02.78 RHONE-POULENC INDUSTRIES B04 C03 D16 (D13) *EP ---3-923
Enzymes immobilised on inorganic supports - 65025B/36
RIEG 05.07.77 RIEGEL TEXTILE CORP D15 F06 =US 4165-288
Treating used vat dye liquor to recover conc. dye soln. - 01922B/02
• RIME= 15.07.77 RIGA MED INST B04 D16 J04 *SU -635-425
Immunosuppressant drug dose evaluation - 66114B/36
RITC/ 02.02.76 RITCHEY E R C02 D15 #CA 1060-672
Algaecide and herbicide compsn. - 29862X/16
RIWO- 10.09.75 RIWOPLAN MEDIZIN D22 =GB 1551-834
Endoscope disinfecting appts. - 20233Y/12
• ROAN= 04.04.77 ROST ANTI-PLAGUE B04 D16 *SU -634-750
Vibrio phosphorescens P-9510 serotype 6 - 65825B/36
• ROHM 20.08.73 ROHM & HAAS CO A60 D22 E13 G02 (E17) *US 4165-318
Formaldehyde stabilised 3-isothiazolone soln. - 66265B/36
RTMN 04.05.76 ROTHMANS PALL MALL LTD D18 E15 =DS 2719-793
Fluid application to absorbent material - 83274Y/47
• RYDE- 04.12.75 RYDER INT CORP D22 *US 4165-359
Contact lens autoclave steriliser for home use - 66286B/36

SAGA 27.01.77 SAGAMI CHEM RES CENT B05 D13 E16 (E14) =US 4165-311
Di:peptide amino acid addition cpds. - 57088A/32
• SAKA/ 17.01.78 SAKAGUCHI Y D15 J01 *J5 4096-485
Prodn. of rotatable water from sea-water or brine - 65746B/36
• SAKB 09.01.78 OTSUKA KAGAKU YAKUHIN A97 D15 (A14) *J5 4094-482
Scale preventing agent - 65379B/36
• SANK- 30.12.77 SANKYO YUKI KK D15 *J5 4093-852
Appts. for purifying human waste - 65316B/36
SAOK 05.11.75 SANYO KOKUSAKU PULP B03 D13 E13 =J7 9023-000
Crystalline stevioside prodn. giving purer prod. - 44324Y/25
• SAOK 29.12.77 SANYO KOKUSAKU PULP D15 F09 *J5 4093-103
Treating waste peroxide bleaching soln. used for pulp slurry - 65225B/36
• SAOK 29.12.77 SANYO KOKUSAKU PULP D15 F09 *J5 4093-104
Treating waste peroxide bleaching soln. used for pulp slurry - 65226B/36
SAPA 30.07.75 SAPAL D13 =SU -634-654
Article transfer device to higher plane - 09780Y/06
• SCHA/ 23.02.78 SCHACHER E D12 *DT 2807-766
Splitting hammer for line transporting opened pig carcasses - 64820B/36
SCHD 09.02.77 SCHERING AG B01 D16 =DS 2705-917
Mineralocorticoid 3 beta,16 beta-di:hydroxy-5 androstenone prodn. - 60639A/34
SCHI/ 10.01.77 SCHICK J,H D16 (D13) =DS 2700-698
High yield microbiological prodn. of unicellular protein foodstuff - 33491A/19
SCHO- 25.11.77 SCIENT HOSP SUP B04 D16 #FR 2410-042
Petri dish multi-disc test strips for microbiological research - 38509A/22
SCHR- 22.02.78 SCHREIBER-KLARANLAG D15 =NL 7901-322
Bar screen cleaning rake used in waste water treatment - 54637B/30
SCHR/ 14.11.73 SCHRAGE F D15 J01 =DS 2356-801
Cleaner for water straining grid - 53772V/30
SCHR/ 17.01.77 SCHREIBER A D15 =US 4165-286
Sewage aeration tube - 42329A/24
• SCHZ 18.10.77 SCHWEIZER FERMENT AG D21 (D16) *SW 7711-735
Oral hygiene compsn. contg. mutanase - 66154B/36
SEBS- 21.02.78 SEB SA A96 D12 =GB 2014-846
Domestic wax melting installation - 39020B/21
SEBS- 21.02.78 SEB SA A96 D12 =NL 7900-733
Domestic wax melting installation - 39020B/21
SEIS 11.04.77 SEISAN KAIHATSU KAGAKU A11 D15 J01 (A88) =J7 9023-709

• SEIW- 31.12.77 SEIWA KASEI KK D15 *J5 4093-851
  Flocculant for waste water sludges - 65315B/36
• SERE/ 25.01.78 SEREGELY L C04 D15 *HU T016-860
  Stable manure processing into fertiliser and gas - [illegible]B/36
• SHAM/ 11.07.77 SHAMARDIN V A B04 D16 *SU -634-749
  Erythrocyte based diagnostic compsn. prepn. - 65824B/36
SHEL 19.12.75 SHELL INT RES MIJ BV D25 E17 (E14) =GB 1550-350
  Stabilised nonionic alcohol alkoxylated surfactants - 48204Y/27
• SHEM/ 22.02.78 SHEMER M A97 D12 *EP ---3-912
  Self-binding fibrous gluten for meat-like prods - 65019B/36
• SHIK/ 22.09.76 SHIKHOV G L D12 *SU -635-946
  Boiled sausages cooling apparatus - 66142B/36
SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =DT 2907-153
  7 Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids - 49025B/27
• SHOS 08.01.76 SHOWA SANGYO KK D17 E13 (D16) *J5 4095-744
  Isomerisation of glucose to fructose - 65614B/36
• SHVE/ 22.04.76 SHVETSOV V N D15 *SU -635-049
  Biochemical treatment of conc. industrial waste - 65954B/36
SICK- 29.11.77 SICK O KG D15 J01 =FR 2409-787
  Washing medium purification - 44153B/24
SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) =GB 2014-973
  Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) =NL 7901-385
  Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
SMIN 26.07.73 SMITH & NEPHEW LTD A91 B04 D13 J01 (A96 A97) =CA 1060-728
  Absorbent particles coated with biocompatible polymer films - 13044W/08
• SNOW 11.01.78 SNOW BRAND MILK PRODUCTS D13 *J5 4095-768
  Synthetic milk with similar protein content to human milk - 65621B/36
• SNOW 12.01.78 SNOW BRAND MILK PRODUCTS D13 *J5 4095-771
  Soybean protein drink prepn. - 65623B/36
SOAF- 24.11.77 SOAF D15 =FR 2409-965
  Activated sludge treatment plant for waste water - 25943B/14
SOMA- 12.03.76 SOMAR MFG CO LTD A88 D15 F04 J01 #CA 1060-806
  Filter for sepg. oils from water - 19870X/11
SOUT- 21.12.77 SOUTHLAND CORP D13 E17 (D21 E12) =J5 4094-483
  Easily dispersible powdered hydrated emulsifiers - 54385B/29
• STAK/ 13.11.75 STAKHORSKAYA L K C03 D13 F09 (D15 D16) *SU -635-128
  Yeast biomass for animal feed prodn. - 66029B/36
STAU 08.06.76 STAUFFER CHEMICAL CO D13 =US 4165-391
  Meat flavouring compsns. - 88217Y/50
STER 23.12.77 STERLING DRUG INC D22 L02 =J5 4094-512
  Beta whitlockite prepn. in solid or porous form - 47146B/26
STER 27.12.77 STERLING DRUG INC D15 =J5 4096-477
  Removing unwanted slurried solids from reactor - 15832B/08
• STER- 18.11.77 STERAPLAST INC D22 *US 4164-941
  Surgical table disposable drape - 66184B/36
• STER= 11.08.75 STERLITAMAK KAUSTIK D15 E19 J01 *SU -635-094
  Polyethylene-amine di:thiocarbamate complexing agent prepn. - 65996B/36
STER= 08.06.76 STERLITAMAXKY OPYTN A60 D13 E14 F06 #NL -161-128
  2,6-Di-tert-butyl 4-methyl phenol prepn. by hydrogenolysis - 96224X/52
STER= 29.11.77 STERLITAMAK PETROCH A41 D22 E17 #FR 2409-975
  Gaseous formaldehyde recovery from aq. soln. - 51887B/28
• SUGY 09.01.78 SUGIYAMA SANGYO KAG D13 *J5 4095-762
  Prepn. of fried bean curd used as instant noodle - 65620B/36
SULZ 02.09.74 SULZER BROS LTD D14 K08 =NL -161-287
  Irradiation device for canned goods, etc. - 18932X/11
SUMD 31.08.76 SUMITOMO CEMENT KK D15 E31 =J7 9022-948
  Treatment of hexavalent chromium cpd. in industrial waste - 31097A/17
• SUME 12.01.78 SUMITOMO ELEC IND KK D15 J01 *J5 4095-983
  Membrane module end structure - 65661B/36
• SUMI- 05.01.78 SUMITOMO ALUMINIUM D15 F09 J01 *J5 4093-688
  Adsorbent for waste water contg. organic substances - 65305B/36
• SUPE 08.05.78 SUPERFORNI RINALDI D11 *BE -875-757
  Continuous electric oven for cooking pizzas on plates - 64747B/36
• SVFL 19.04.78 SVENSKA FLAKTFAB AB D22 *BE -875-639
  Disinfection of hospital equipment with hot damp air - 64720B/36
SYMA- 20.01.78 SOC SYMAC A31 D14 J02 =SW 7900-499
  Continuous mixer for particulate solids and liquids - 54500B/30

• TAKE 28.12.77 TAKEDA CHEMICAL IND KK B02 C02 D22 *J5 4092-986
  Antibacterial cephalosporin derivs. - 65150B/36
• TAKE- 25.05.77 TAKEWAKA DOBOKU KK D15 L02 *J5 4096-250
  Solidification of toxic waste e.g. industrial sludge - 65699B/36
TAMG 23.01.76 TAMAG BASEL AG D18 =US 4164-948
  Artificial tobacco mfr. - 36312Y/21
• TART= 03.01.77 TARTAR PETRO IND D15 H05 *SU -635-047
  Sepn. of petroleum from petroleum prodn. waste - 65952B/36
• TATL 01.03.78 TATE & LYLE PATENT D13 *EP ---3-911
  Rapid, high yield thaumatin extraction - 65018B/36
TEAR 13.05.71 TEA RES ASSOCIATION D13 #DS 2123-778
  Tea leaf processing machine - 50522T/32
TEEP 18.04.78 TEE PAK INC A32 D12 (A11 A97) =BE -874-221
  Forming fibrous tube for sausages - 64645B/35
• TEEP 21.04.78 TEE PAK INC A97 D22 (A11) *BE -874-220
  Tough, artificial casings of fibrous structure - 64701B/36
TEIJ 09.05.72 TEIJIN KK D15 F06 =US 4165-217
  Recovery of dyes and solvents - 65178U/43
TETR 07.10.76 TETRA PAK INT AB D22 =CA 1060-627
  Beverage e.g. milk, package steriliser - 29061A/16
TEXC 30.09.74 TEXACO INC D15 E37 H04 =DS 2536-227
  Decompsn of metal cyanide complexes and phenols - 28583X/16
THAM- 11.12.78 THAMES WATER AUTHOR D15 E35 =GB 2014-978
  Ammonia removal from sludge liquor - 47524B/26
• THET- 21.02.78 THETFORD CORP D15 (D22) *EP ---3-879
  Water purifying appts. - 65005B/36
• THOR/ 29.11.77 THOREL J N D21 E13 *FR 2409-751
  Sun tan compsn. giving rapid bronzing - 65034B/36
TIPE- 29.11.77 TIPE REVENT AB D11 =FR 2410-225
  Convection type baking oven - 42644B/23
• TKEN 25.05.77 TAKENAKA KOMUTEN KK D15 L02 *J5 4096-250
  Solidification of toxic waste e.g. industrial sludge - 65699B/36
• TOAG 09.01.78 TOA GOSEI CHEM IND LTD A93 D22 G04 (A14) *J5 4094-561
  Sealing fumigation appts. - 65424B/36
TOKD 14.05.75 TOKYO UNIVERSITY B04 D16 =CA 1060-797
  Endotoxin component from Pseudomonas aeruginosa - 90873X/49
• TOKE 13.01.78 TOKYO SHIBAURA ELEC LTD D22 E36 J01 *J5 4095-968
  Deodorising process using ozone - 65649B/36
• TOKE 13.01.78 TOKYO SHIBAURA ELEC LTD D15 J04 *J5 4095-980
  Catalyst for oxidn. of organic content of water - 65659B/36
TOKU 14.02.75 TOKUYAMA SODA KK D16 E17 (D13) =CA 1060-823
  L-tartaric acid prepd from cis-epoxysuccinic acid - 74917X/40
TOKU 09.10.75 TOKUYAMA SODA KK A97 D16 E17 =CA 1060-822
  L-Tartaric acid prepn from cis-epoxy-succinic acid - 81470X/44
• TORA 13.01.78 TORAY INDS INC B04 D16 *J5 4095-795
  Interferon prodn. - 65625B/36
• TOXN 17.02.78 TOYO BREWING KK A96 B04 D16 J04 (A14) *DT 2905-671
  Immobilised protein for quantitative analysis of enzymatic reactions - 64907B/36
TOXN 17.02.78 TOYO BREWING KK A96 B04 D16 J04 (A14) =GB 2015-001
  Immobilised protein for quantitative analysis of enzymatic reactions - 64907B/36
TOYJ 27.01.77 TOYO SODA KK B05 D13 E16 (E14) =US 4165-311
  Di:peptide amino acid addition cpds. - 57088A/32

• UAGR= 19.07.76 UKR AGRIC MECH ELEC D13 *SU -634-701
  Carbon-di:oxide injector for silage fodder in trenches - 65808B/36
• UAGR= 17.12.76 UKR AGRI MICROBIOL C03 D13 (D16) *SU -634-729
  Animal feed contg. addn. of Bacillus subtilis biomass - 65814B/36
UBEI 04.02.77 UBE INDUSTRIES KK B05 D23 E14 =US 4165-341
  Substd. benzaldehyde derivs. e.g. protocatechualdehyde prodn. - 59057A/33
• UFOO= 06.06.77 UKR FOOD MECH ENG D11 *SU -635-944
  Dough dividing machine for bread baking industry - 66140B/36
• UHOR= 18.07.77 UKR HORTICULT RES D14 *SU -634-734
  Fruit storage tank for container emptying appts. - 65819B/36
• UKSO- 01.03.78 UK SEC SOCIAL SERVI B04 D16 *EP ---3-916
  Sepn. of leukocytosis producing factor haemagglutinin prepn. - 65022B/36
• ULLR/ 24.02.78 ULLRICH W D18 *DT 2808-076
  Folding machine for profiles esp. of leather - 64844B/36
• UNBI- 23.02.78 UTD BISCUITS UK LTD D11 *GB 2014-838
  Patterned or textured crisp bread prodn. - 65086B/36
UNIC 10.05.67 UNION CARBIDE CORP A97 D12 =NL -161-040
  Moistening hollow articles esp sausage skins - 15212Q/00
UNIC 04.04.73 UNION CARBIDE CORP A97 D13 (D12) =DS 2416-129
  Cellulosic fibrous casing for foods eg sausages - 72792V/42
UNIC 15.12.77 UNION CARBIDE CORP A97 D12 =J5 4095-767
  Tubular cellulosic wrapping, esp. for sausages - 45696B/25
• UNIC 24.02.78 UNION CARBIDE CORP A96 D22 (A23) *EP ---3-845
  Orthopaedic cast or splint, or bandage for applying cast - 64989B/36
• UNIC 24.02.78 UNION CARBIDE CORP A23 D22 (A96) *EP ---3-846
  Thermoplastic crosslinkable copolymer - 64990B/36
UNIC- 04.10.74 UNI-CHARM KK A16 D22 (A14) =J7 9023-514
  Blood absorbing film - 76411X/41
UNIC- 04.10.74 UNI CHARM KK A96 D22 (A14) =J7 9023-515
  Sanitary napkin - 38861X/21
UNIL 28.02.68 UNILEVER NV D13 =NL -161-201
  Margarine fat phase of specified dilatation - 67921V/39
UNIL 09.04.69 UNILEVER NV D23 E19 J04 =DS 2016-603
  Selective hydrogenation catalyst for poly - 76137R/41
UNIL 09.03.70 UNILEVER NV D13 =NL -161-042
  Edible water-in-oil emulsions prepn - 58645S/36
UNIL 12.07.72 UNILEVER NV D13 E13 =NL -161-044
  Food flavouring agents - 08645V/05
UNIL 11.04.73 UNILEVER NV D13 =NL -161-039
  Pasteurised packaged instant cake dough - 74313V/43
UNIL 26.07.74 UNILEVER LTD D13 =CA 1060-702
  Cocoa butter non-palmitic/palmitic fat mixt substitute - 11611X/07

UNIL 23.06.75 UNILEVER LTD D25 E16 (E19) =CA 1060-754
Superfatted soap cake contg. detergent which is not a soap - 02017Y/02
•UNIL 18.10.77 UNILEVER LTD D14 *GB 2014-899
Roller impeller extrusion press - 65101B/36
UNIL 16.11.77 UNILEVER BV A97 D25 E16 F06 =J5 4093-190
Fabric softening compsn. for cotton and synthetic textiles - 39348B/21
UNIL 12.12.77 UNILEVER NV A96 D21 =J5 4095-741
Germicide free antibacterial mouth-wash - 35177B/18
UNIL 19.01.78 UNILEVER NV D21 E13 =SW 7900-468
Cleansing bar contg. water-soluble acyl isethionate salt - 56544B/31
UNIL 15.02.78 UNILEVER NV A96 D22 =BE -874-206
Absorbent bandage with perforated facing sheet - 61693B/34
UNIL 15.02.78 UNILEVER NV A32 D22 =BE -874-207
Rendering plastics foil water permeable - 63269B/35
UNIL 15.02.78 UNILEVER LTD A32 D22 =GB 2014-903
Rendering plastics foil water permeable - 63269B/35
•UNIL 25.02.78 DEUT UNILEVER GMBH D13 *DT 2808-248
Curds and whey mixture delivery system - 64861B/36
UNIL 20.12.78 UNILEVER LTD D25 E34 =GB 2015-050
Granular bleach activators - 49431B/27
UNTC 25.11.77 ECODYNE CORP D15 E37 =FR 2409-962
Salt water, e.g. sea water desalination - 42680B/23
UNVO 25.11.77 UOP INC A88 D15 E36 J01 =FR 2409-781
Gas separation membrane with semipermeable thin film - 45910B/25
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2409-999
Decomposition prods. of rubradirin antibiotics - 84365A/47
USMC 19.10.77 USM CORP D17 =FR 2410-044
Sugar cane crushing mill - 33608B/18
UYPA- 18.12.74 UNIVERSITY PATENTS D15 E37 =CA 1061-020
Orthophosphate removed from waste water - 52536X/28

•VEND= 24.05.77 VENDING EQUIP RES D14 *SU -634-496
Microwave heat treatment plant for milk and meat produce - 65807B/36
•VLEN- 20.02.78 FA B VAN LENGERICH D14 *DT 2807-107
Cattle fodder mixing and discharging appts. - 64790B/36
VLEN- 20.02.78 FA B VAN LENGERICH D14 =EP ---3-813
Cattle fodder mixing and discharging appts. - 64790B/36
•VOIJ 23.02.78 VOITH J M GMBH D15 *DT 2807-733
Measuring the BOD of sewage - 64818B/36
•VOLS/ 17.07.75 VOLSKAYA S A A97 D25 *SU -635-126
Compsn. for cleaning solid surfaces, e.g. vehicle bodies - 66027B/36
VYSO 11.01.78 VYSOKA SKOLA STROJ TEXT A97 D16 #NL 7800-340
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

•WASU 21.03.77 WATER SUPPLY HYDROGEOL D15 *SU -635-050
Waste and natural water purification automatic control - 65955B/36
•WATS- 22.02.78 WATSON J DEVELOPMEN D15 *EP ---3-904
Self powered desalination appts. - 65013B/36
WELA 09.12.77 WELLA AG A96 D21 (A11) =J5 4095-740
Aq. hair conditioner and shampoo compsns. - 45814B/25
WELL 03.11.77 WELLCOME FOUNDATION LTD B02 D16 =J5 4095-794
Prepn. of purine 9-beta-d-arabino-nucleoside(s) - 44331B/24
WELL 01.12.77 WELLCOME FOUNDATION LTD B04 D16 =J5 4095-789
In vitro propagation of rota-viruses - 42416B/23
WORT- 07.07.76 WORTHINGTON PUMP IN D16 =GB 1551-885
Biochemical sewage treatment tank - 90421Y/51

•YAMS 27.02.78 YAMASA SHOYU KK B04 D16 (D13) *DT 2906-737
L-Lysine-alpha-oxidase prodn. from Trichoderma viride - 64923B/36
YOSH/ 30.09.77 YOSHIDA K B04 D16 =FR 2410-043
Prepn. of polysaccharide(s) for immune serum - 43128B/23

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CA 1052-695 B20
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11611-X D
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CH -582-404 X52
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J7 9022-909 B36

19870-X ADFJ
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CA 1060-806 B36+

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SF 7503-476 X35+
DK 7505-642 X38+
J5 1091-389 X39+
FR 2293-942 X43+
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HU T016-828 B33+
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NL 7514-381 X33+
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DK 7600-302 X42+
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DK 7602-571 Y09
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J5 1133-489 Y01
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GB 1550-434 B36

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SW 7607-176 Y08
DK 7602-797 Y13
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US 4165-375 B36

07588-Y D
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DT 2640-635 Y13+
NL 7609-948 Y14+
BR 7606-082 Y23+
FR 2324-242 Y25+
DK 7604-185 Y25+
ZA 7605-030 Y38
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GB 1551-727 B36+

09780-Y D
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GB 1537-364 B01
DS 2633-538 B04
SU -634-654 B36

12818-Y DE
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22158-Y DE
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44324-Y BDE
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J7 9023-000 B36

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GB 1552-091 B36+

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30564-A D
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31097-A DE
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33491-A D
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33495-A AD
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NL 7800-340 B36+

36436-A AD
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DT 2808-054 B36+

36719-A D
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36844-A D
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38509-A BD
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DK 7705-203 B28+
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39400-A D
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88321-A DLM
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88917-A ADJ
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J7 9023-709 B

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J5 4032-695 B16
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24010-B BDJ
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24332-B D
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GB 2014-846 B36

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SW 7811-814 B27
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SF 7803-489 B35
J5 4093-190 B36

40648-B D
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NL 7900-419 B32+
GB 2013-705 B33+
DK 7900-173 B36+

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GB 2011-152 B27+
J5 4095-900 B36+

42416-B BD
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GB 2009-786 B25+
DT 2851-928 B26+
DK 7805-428 B29+
SW 7812-283 B29+
SF 7803-663 B35+
J5 4095-789 B36+

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42574-B D
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42631-B D
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NL 7713-110 B24
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DK 7805-265 B28
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42638-B DM
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FR 2410-056 B36+

42644-B D
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42690-B DHM
DT 2850-925 B23
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42697-B DE
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NL 7811-595 B24
GB 2009-151 B24
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42699-B BDE
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42700-B BDE
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GB 2010-655 B27
FR 2409-757 B36

42722-B D
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NL 7811-714 B24+
GB 2008-920 B24+
SW 7812-069 B29+
SF 7803-591 B35+
J5 4093-674 B36+
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J5 4086-611 B34+
FR 2410-278 B36+

43128 B BD
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FR 2410-043 B36

44049-B DE
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NL 7811-470 B26
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44153-B DJ
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44253-B ACDE
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NL 7811-596 B24+
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44422-B BD
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45685-B BDE
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DK 7805-288 B33
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SW 7900-024 B34
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J5 4095-742 B36

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SF 7803-813 B35
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47225-B CD
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DT 2906-375 B36

47279 B DJ
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47439-B DJ
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NL 7812-233 B27
US 4163-717 B34
J5 4093-673 B36

47481-B DE
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BR 7808-067 B34+
J5 4095-547 B36+

47524-B DE
EP ---2-597 B26
GB 2014-978 B36+

49015-B BCDE
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NL 7900-006 B29+
GB 2013-181 B32+
DK 7805-077 B33
NO 7900-006 B34+
SW 7900-028 B34+
J5 4095-585 B36+

49016-B BCDE
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DT 2900-120 B28+
NL 7900-007 B29+
GB 2013-179 B32+
DK 7805-074 B33+
SW 7900-027 B34+
J5 4095-587 B36+

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SW 7813-278 B33+
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BR 7900-252 B35
NO 7900-100 B36

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NL 7900-405 B31
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SW 7900-413 B36

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SW 7900-499 B36

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54855-B D
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SW 7800-463 B36

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SF 7803-282 B30
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GB 2013-494 B33
DK 7900-017 B36

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BR 7900-254 B35
SW 7900-468 B36

56559-B AD
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NL 7900-364 B32+
NO 7900-168 B36+
SW 7900-457 B36+

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BE -874-206 B36

61756-B D
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GB 2014-429 B35
BE -874-198 B36

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DK 7900-292 B36

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NL 7901-380 B36+
GB 2015-055 B36+

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63170-B ADJ
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GB 2014-873 B36

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BE -874-207 B36
GB 2014-903 B36

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NL 7901-269 B36

63432-B ADJ
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GB 2014-973 B36+

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NL 7901-215 B36
DT 2806-514 B36

63493-B DHJ
GB 2014-467 B35+
NL 7901-304 B36+

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65681-B BD
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65854-B D
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65859-B DF
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65861-B D
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SU -634-926 B36

65947-B CDE
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65950-B D
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66125-B DJ
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SW 7711-735 B36
SW 7711-735 B25

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SW 7712-156 B36
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66199-B AD
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66229-B BCDE
US 4165-250 B36+

66233-B ADH
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66247-B D
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66251-B DE
US 4165-293 B36+

66255-B DE
US 4165-301 B36

66265-B ADEG
US 4165-318 B36+

66275-B ADE
US 4165-334 B36+

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66290-B BD
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66298-B AD
US 4165-385 B36+

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=198 61756B D13
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=207 63269B A32D22 + P2
• 220 64701B A97D22
=221 64645B A32D12
=225 65803B D15
• 542 64705B D15J01

BE -875
• 639 64720B D22P3
• 681 64727B D23
• 724 64736B D13P1
• 736 64740B D18F07P1
• 757 64747B D11Q7
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• 796 64755B D12R1

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=701 81408W A97B07D13
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DS 2016
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DS 2027
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778 50522T D13

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DS 2154
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DS 2201
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DS 2233
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=422 38419V D16

DS 2305
=149 45330U D16E12

DS 2319
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DS 2356
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• 845 64989B A96D22P3
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• 862 64997B D15E31J01M14
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• 923 65025B B04C03D16
• 936 65030B D16J04K07P6

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=102 49436B D17E12F09M12
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• 104 65226B D15F09
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• 670 65295B D15
• 671 65296B D15P4
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=548 47156B B03D16E13
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• 565 65531B A96B03D22
• 566 65532B A96B03D22
=574 54894B B03D16
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=587 49016B B03C02D22E13
• 607 65541B D16E12
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• 748 65617B D13E13

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- = 791 22393B C03D16E13
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- = 793 16275B B02C02D16
- = 794 44331B B02D16
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- = 796 02884U B03D16
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- = 942 22078B D15E19M14
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- * 968 65649B D22E36J01
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- * 987 65662B D11E17
- = 988 49263B A87D18E19F06
- = 991 40962B D17H03J01

J5 4096
- * 093 65681B B04D16R1
- = 098 240[illegible]B B04D13J04R1
- * 250 65699B D15L02
- * 252 65700B D15J01
- * 255 65701B D15
- * 261 65702B A88D15
- * 476 65739B D15E36J01
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- = 479 52850B B07C03D13J04
- * 484 65745B A97D15J01
- * 485 65746B D15J01
- * 486 65747B A88D15J01

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- = 900 44357V C04D16
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- = 909 19396X C02D13P1
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- * 919 65759B C03D13
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- = 962 27553A D17
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- = 189 20749Y D15E37
- = 364 00928X D25E19
- = 505 18220W D15
- = 514 76411X A16D22P3
- = 515 38861X A96D22P3
- = 709 88917A A11D15J01
- = 720 63800A A26C03D21G02

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- = 043 23209R B07C03D13
- = 044 08645V D13E13
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- = 115 00655V D15
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- = 129 08121S D23E14
- = 140 49430S B05C03D13E24
- = 148 08121S D23E14
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- = 201 67911V D13
- = 287 18912X D14K08 + Q3

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- = 215 63486B D13
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- * 261 65803B D15
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- = 284 63360B D12
- = 304 63493B D15H01J01
- = 322 54637B D15Q4
- = 380 63155B A97D22F09P2
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- * 042 65947B C04D11E35
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- = 499 54500B A31D14J02

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- * 985 66168B A97D16H01Q4

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- = 045 36719A D12P4
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- * 250 66229B B02C03D16E13
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- # 367 00430B A96D21
- * 368 66291B B05D21
- = 369 22158Y D21E19
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- = 392 36844A D13

CENTRAL PATENTS INDEX

CLASSIFIED ALERTING BULLETIN

Section D:

FOOD
DETERGENTS

WEEK B37
31 OCTOBER 79
66322B - 68118B

[illegible]
[illegible]
26 MAR 1980
C.F.T.R.I., MYSORE

ABSTRACTS

INDEXES

- **II - PATENTEE**
- **V - BASIC NUMBER**
- **VII - PATENT NUMBER**

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	4 SEP - 10 SEP 79	874,602 - 874,740
-Non Delayed	16 AUG 79	875,800 - 875,972
BRAZIL	21 AUG 79	7,708,669 - 7,903,017
	28 AUG 79	7,800,611 - 7,900,780
CANADA	28 AUG 79	1,061,051 - 1,061,500
DENMARK	20 AUG 79	7,800,370 - 7,900,391
W. GERMANY		
-DAS	6 SEP 79	1,525,198 - 2,905,518
-OLS	6 SEP 79	2,156,974 - 2,908,547
FRANCE*	29 JUN 79 (BOPI 3 AUG 79)	2,410,421 - 2,410,942
UNITED KINGDOM	12 SEP 79	1,552,131 - 1,552,590 2,015,311 - 2,015,850
ITALY	30 APR 79	1,031,001 - 1,031,500
JAPAN		
-Unexamined	—	47,031,815 - 54,063,619
	31 JUL - 7 AUG 79	54,096,501 - 54,100,300
-Examined	16 AUG - 22 AUG 79	79,023,721 - 79,024,680
NETHERLANDS	27 AUG - 2 SEP 79	7,802,013 - 7,903,682
NORWAY	20 AUG 79	7,704,164 - 7,900,273
SOVIET UNION	—	635,960 - 637,368
SWEDEN**	27 AUG 79	7,712,456 - 7,903,894
UNITED STATES		
-Reissues	28 AUG 79	Re30,083 - Re30,087
	4 SEP 79	Re30,088 - Re30,091
-Defensives	4 SEP 79	T986,001 - T986,011
-Patents	28 AUG 79	4,165,542 - 4,166,291
	4 SEP 79	4,166,292 - 4,167,041
PCT	6 SEP 79	7,900,611 - 7,900,672

*Printed patents actually published late August - early September, 1979

**Includes numbered Basics from Week B26

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

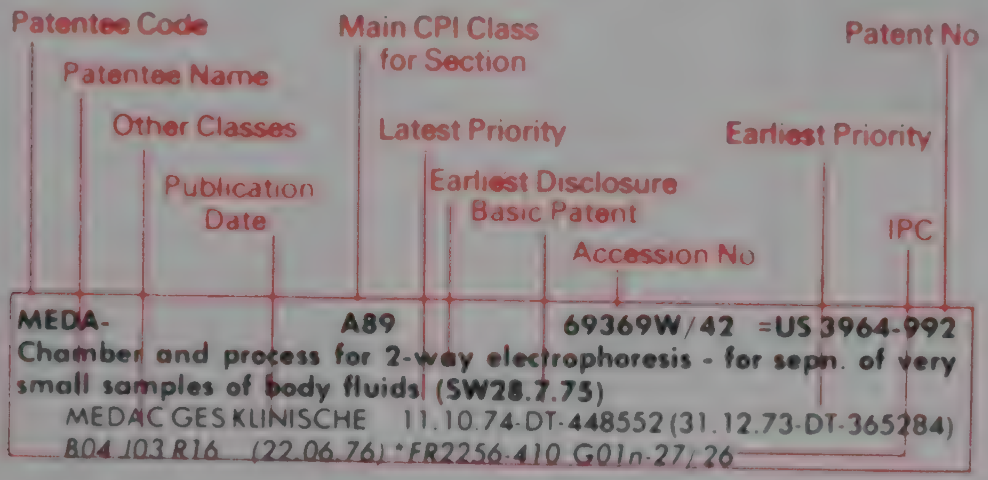
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry	F	Textiles, Paper, Cellulose
A+	Polymer Applns.	G	Printing, Coating, Photographic Chemistry
AE	Polymer & General Chemistry	H	Petroleum
B	Pharmaceuticals	J	Chemical Engineering
C	Agricultural Chemistry	K	Nucleonics, Explosives, Protection
D	Food, Disinfectants, Detergents	L	Refractories, Ceramics
E	General Chemistry	M	Metallurgy
E+	General Chemistry Applns.		

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- A89 69369W/42 =US 3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

YNN D11 12156S/07 =DS 1937-433
Chemically-and yeast risen baked goods - improvement
DYNAMIT NOBEL AG 23.07.69-DT-937433
*(06.09.79) *DT1937-433 +A21d-02/16*

Baked goods raised by baking powder or yeast are improved by using an emulsifying mixt. to form the dough. The emulsifying mixt. is an interesterification prod. or mixt. of 60-95 mole% mono- or partial glycerides of 12-22C satd. fatty acids and 40-5 mole% of esters of pref. acylated, edible, hydroxyacids with the partial esters or mixts. of the partial esters with the edible hydroxy acids. 23.7.69 as 937433 (8pp068)

WINK D11 73118V/42 =DS 2315-418
Hot gas circulation multi deck baking oven - for bread prebaking and finish baking after temperature reduction
FR WINKLER SPEZ KG 28.03.73-DT-315418
*(06.09.79) *DT2315-418 A21b-01/26*

A multideck oven for bakeries, based on the circulation of heating gases has, between the ventilator and the burner, an adjustable flap valve to control the share recirculated and passed to the chimney. Upstream of the entry to the decks, a fresh air inlet is fitted with another flap valve.

By suitable position of the two flap valves, the full heat during baking can be lowered in a few mins. to the desirable temp. for finish baking. 28.3.73 as 315418 (3pp39)

FRRR D11 90091Y/51 =DS 2736-838
Baba type fancy cake - comprising cellular bread allowing greater alcohol impregnation
FERRERO P & CIA SPA 07.06.77-IT-068308 (17.08.76-IT-069028)
*(06.09.79) *BE-857-760 A21d-13/08*

Cakes are prepd. flavoured with liquer contg. $\geqslant 35\%$ ethanol and 35% sugar and coated with a layer contg. $\geqslant 30$ wt.% fat, e.g. chocolate. A dough is prepd. from wheat flour, sugar, yeast, protein (including gluten) and water.

The dough in the form of a thin layer $\ngtr 1$ cm thickness, is allowed to rise and is then cooked under controlled conditions of temp. and moisture content. The resulting slab is impregnated with liquer (at least 1 pt. liquer to 1 pts. cake) cut into pieces and coated with a fatty layer. 16.8.77 as 736838 (10pp068)

INTT ★ D11 66560B/37 ★DT 2906-803
Edible moisture-barrier coating for doughnuts - and other baked and fried foods contains aq. poly)saccharide or dextrin soln. emulsified in oil NL 30.8.79)
DEUTSCHE ITT INDS 28.02.78-US-881935
(06.09.79) A21d-15/08 A23d-05

Edible coating forming a moisture barrier on relatively porous surface of baked goods or fried foods consists of a water-in-oil emulsion or colloidal dispersion of (a) an acetylated monoglyceride, a triglyceride in conjunction with an emulsifier and a fat or wax in conjunction with an emulsifier as oil fraction, (b) a (poly)saccharide or dextrin and (c) water, constituents (b) and (c) being dispersed uniformly as droplets in the oil fraction.

The coating is esp. useful for doughnuts made from yeast dough to prevent them becoming stale rapidly. Variation of the compsn. makes it suitable for other baked and fried foods, e.g. sweets, cakes, bread, etc.

The coating pref. contains 27-65% oil, 40.5-30% (poly) saccharide or dextrin and sufficient water to form a satd. soln. It can also contain ca. 1.3% aroma. 22.2.79 as 906803 (31pp016)

MICH/ ★ D11 66603B/37 ★FR 2410-438
Bakery scarifying decorator for top surfaces of dough pieces - replaces skilled manual operation without loss of quality
MICHEL J C 30.11.77-FR-036070
(03.08.79) A21c-11/12

The scarifying machine automatically cuts repetitive, decorative incisions in the top surfaces of dough pieces. Formed dough pieces are conveyed longitudinally beneath a scraifying head. The head comprises a support frame which is reciprocated in a horizontal plane, laterally at right angles to the longitudinal axes of the dough pieces.

Suspended from the frame, at least two feeler arms, fitted with scarifying blades, e.g. commercial razor blades, are continually raised and lowered. The vertical reciprocation is synchronised with the lateral reciprocation and with the conveyor progression. Each time an arm descends, its blade cuts an incision in a longitudinally advancing dough piece as the blade is displaced sideways of the piece.

The device is intended for mfg. loaves of bread, partic. french. stick loaves. The decorator can be adapted for any scale of industrial bakery as well as for manual prodn. 30.11.77 as 036070 (14pp448)

BIAN/ ★ D11 B/37 ★IT 1031-104
Cupboard for food products storage
BIANCHETTI A 22.01.75-IT-019524
(30.04.79) A21d

FORN/ ★ D11 B/37 ★IT 1031-270
Frozen dough prodn. appts.
FORNAROLI G 29.01.75-IT-019728
Q75 (30.04.79) F25c

CAPS- ★ D11 66979B/37 ★J5 4098-352
Additive compsn. for bread prodn. - comprises yeast, adjuvant, reducing agent and fine granular functional additive and is encapsulated in gelatin
CAPSULE PRODS INC 17.01.78-JA-002743
E19 (D16 E33 E34) (03.08.79) A21d-02

The additive compsn. comprises an ellipsoid-shaped, gelatine capsulated prod, having separable top end and bottom end which contains (a) a yeast, (b) an adjuvant for adjusting a bread texture, (c) a reducing agent and (d) 1 mg- 5 mg of fine granular functional additive. The functional additive includes calcium bromate, calcium iodate, potassium bromate, potassium iodate, calcium peroxide, acetone peroxide, azo-carboxylic amide, ascorbic acid, ascorbate ester, glutathione, protease and amylase.

The additive compsn. can produce bread and cake having superior homogenous quality. 17.1.78 as 002743(6pp15)

✓**PUTT/ ★** D11 67360B/37 ★NL 7802-195
Prepared cake baking mixture production method - grinds and surface dries e.g. spices and dried fruit before mixing with dough
PUTTER W H 28.02.78-NL-002195
(30.08.79) A21d-02/36

Before the dried fruit such as currants etc. are added to the dough they are ground or stirred to break them into particles, which are shaped and then surface-dried, after which they are added to the dough and mixed with it.

Baking can be carried out in a closed mould. The process allows the currants etc. to be distributed throughout the entire cake. 28.2.78 as 002195(3pp160)

MOFO= ★ D11 67618B/37 ★SU -636-532
Laboratory dough rolling machine - has rolling-out rollers and rolling-up drum, which contains elastic strip, and groove with disc which forms the balls
MOSC FOOD IND TECH 07.01.76-SU-313455
A89 J04 R16 (10.12.78) A21c-03 G01n-33/10

Laboratory dough-forming machine comprises a drive, rolling-out rollers, rolling-up drum, and rounding-off device. The quality of the dough during forming is improved by fitting the rolling-up drum with an elastic strip, one end of which is fastened above the rounding-off device which comprises a circular groove and disc. These are

mounted vertically so that a gap forms between them to allow the dough blanks to enter. The disc can rotate, and the rolling-out rollers are connected to the rolling-up drum by means of the drive belt. The working surface of the disc is covered with a flexible material, pref. edible resin, with the circular groove made from a transparent material, such as 'perspex' (organic glass). The circular groove also has a screw to control the gap between it and the disc.
Ginsburg A.G., Grislis B.A., Bul. 45/5.12.78 7.1.76 as 313455 (3pp29)

MASO/ ★ D11 67826B/37 ★US 4165-855
Round baking tin - with closed bottom frusto/conical centre post seating firmly on bowl base centre hemispherical protuberance
MASON S I 07.12.77-US-858093
P64 (28.08.79) A23g-01/20 B28b-07/16

A tin comprises a circular mixing bowl with a central hemispherical upward protuberance in the base, an a frustoconical centre post as high as the bowl sides for positioning on the base centre. The post is narrower at the top for easy removal of a cake and is stable when located on the protuberance.

The post has a closed bottom with indentation complementary to the protuberance and contacts the bowl flat base around the protuberances. The post top may be open so that it acts as a container, and there may be a shallow serving dish to fit the bowl as a lid and with a central recess to position the post. 7.12.77 as 858093 (9pp1358)

GREE- ★ D11 67914B/37 ★US 4166-136
Lasagne noodle formed as elongate ribbon - with transverse corrugations terminating short of ribbon edge
GREEN GIANT CO 05.01.78-US-867092
(28.08.79) A23l-01/16

A lasagna noodle comprises a straight elongate ribbon of the lasagna paste, formed with corrugations. The corrugations extend transversely across the width of the ribbon but have a length less than the total width of the ribbon. At least some and pref. all corrugations are closed at their ends.

Pref. the ribbon is flat on both of its surfaces and the corrugations rise above and below the surfaces. The lasagna noodle is used with a conventional sauce but there is better compacting of the noodles with adjacent noodles. The noodle may be mfd. using existing equipment but altering the extrusion dye to produce a drag on the outside marginal edges. 5.1.78 as 867092(4pp295)

TOSU- ★ D11 67916B/37 ★US 4166-139
Instant, cupped noodles prodn. - by frying in inverted perforated metal cup, drying and placing in storage cup
TOYO SUISAN KAISHA 22.07.76-JA-087602
(28.08.79) A23l-01/16

Instant cupped noodles are produced by placing a mass of noodles in a liq.-permeable metal cup. The cup has a tapered cross section and has a liq. permeable lid covering the wider upper end. The cup is inverted in heated oil for drying the contained mass of noodles. The noodles rearrange themselves to a dense packing in the bottom of the metal cup and a more open packing in the upper part of the cup.

The metal cup is removed from the oil and the fried mass is removed for drying. The dried mass of noodles are packed in a cup-shaped container having a similar shape to the metal cup but with a slightly larger inner dia. The dense mass of noodles is disposed in the bottom of the cup which is finally sealed.

The method produces cupped noodles which can be consumed after the addn. of hot water. 31.8.78 as 938359 (+18.7.77-US-816893)(6pp295)

D12 : MEAT ; FISH PROCESSING

NMHB ★ D12 66409B/37 ★DS 2847-188
✓Fish filleting machine - with sepg. tools for fatty strips between costal and skinning cutters
NORDISCH MASCH R BAADER 30.10.78-DT-847188
(06.09.79) A22c-25/16

Fish-filleting machine has downstream of the costal cutters a pair of sepg. tools whuch extend from the edges of a guide slot and include an angle of 60-180° with each other. They are immediately followed by a pair of skinning cutters below an endless belt conveyor.

Arrangement ensures that the fatty strips on both sides of the dorsal fins are separated from the flesh before skinning and are discarded during the skinning operation. 30.10.78 as 847188 (5pp39)

NMHB ★ D12 66412B/37 ★DS 2905-518
Double fish filleting machine - with gap between blades for dorsal fins and fin rays
NORDISCH MASCH R BAADER 14.02.79-DT-905518
(06.09.79) A22c-25/17

A skinning machine for double fish fillets includes a left-hand and a right-hand skinning blade. These leave between themselves along the centre line of the belt conveyor a gap for the dorsal fins and the fin rays.

This eliminates the risk of the skin tearing apart between the fillets or the destruction of the dorsal fins which contaminates the fillets. 14.2.79 as 905518 (5pp39)

FARH ★ D12 66505B/37 ★DT 2809-385
✓Sausage meat filling device - with calibrating tube and disc maintaining constant filling dia. by braking action
HOECHST AG 04.03.78-DT-809385
(06.09.79) A22c-11

The filling of sausage meat into an artificial tubular skin is controlled by a calibrating tube over the sausage machine filler tube. The calibrating tube has a conical tulip-shaped extension, made of flexible material, near the filler tube opening. A smoothened part of the gathered sausage skin passes over the outside of the extension which can move relative to a calibrating disc, fixed to the filler tube.

The dia. of the extension is thus varied depending on the variable pressure and this braking effect keeps the sausage dia. constant. Bursting of skins by excess pressure and puckering by too little filling are thus eliminated. 4.3.78 as 809385 (18pp39)

AREN D12 12639A/07 =GB 1552-399
Positioning fish for processing machines - using taper pins on endless belt automatically adjusted to fish size
ARENCO AB 05.08.76-SW-008788
*(12.09.79) *DT2735-302 A22c-25/08*

Fish are processed in a machine having at least one processing member by impaling the fish on a spike on one of the eyes, measuring the thickness of the head, and adjusting the position of the spike and the member in dependence of the head adjustment.

The spike pref. enters one eye and exits from the other, or alternatively a separate spike of a pair enters each eye. The processing member pref. cuts off the head. During the cutting the fish is pref. rotated about the spike axis to produce a convex shape.

Wastage of fish meat is reduced. 2.8.77 as 032365 (6pp1376).

PERS/ ★ D12 66664B/37 ★GB 2015-417
Reciprocating mould plate patty machine - in which the mould plate and filling piston are driven from drive located at same level
PERSSON B 01.03.78-SW-002304
(12.09.79) A22c-07

In a patty moulding machine, of the type in which material

om a hopper is fed into a chamber and transferred to
e cavity of a reciprocable mould plate by a piston
ciprocable through the chamber, the piston and the
ould plate are driven from a drive disc through connect-
g links. The disc is located at the same level as the
ston and plate and is mounted atop a casing contg. the
otor and gearing for driving the disc.
Drive is relatively simple and is silent in operation.
.2.79 as 006892 (11pp525).

SH/ ★ D12 66980B/37 ★ J5 4098-361
eventing denaturing of actomyosin when freezing minced fish -
blanching, cutting into pieces, adding phosphate, sugar and/or
nylopectin and kneading before freezing
NISHIDA S 21.01.78-JA-005707
(03.08.79) A23b-04/08 A23l-01/32

he method comprises (a) blanching the fish meat, (b)
utting it in fine pieces, (c) adding phosphate, sugar and/or
⩽3 w/w% amylopectin, (d) kneading the mixt. and (e)
eezing it.
Minced fish of excellent elasticity, stickiness and col-
ur can be obtd. 21.1.78 as 005707(4pp5)

IJH- ★ D12 67367B/37 ★ NL 7903-682
g electrocuting installation with automatic separating door - has
nterlocks preventing entry door from opening unti preceding pig is
lectrocuted
MACH NIJHUIS BV 10.05.79-NL-003682
(31.08.79) A22b-03/06

he pigs are killed by contact with electrodes suspended
etween two parallel inclined endless belt conveyors. The
igs enter the gap between the conveyors at the input end
n a downwardly inclined floor so that, when each pig arri-
es at the electrodes, it is firmly held between the two con
-veyors. In order to separate each pig from the one behind
t, the conveyor is preceeded by a ramp at the end of which
is a vertical sliding door which either entirely blocks the
passage or leaves it entirely free according as to whether
it is raised or lowered.

A prickle electrode is pref. coupled with the door so that, when the door is raised, the electrode lowers and transmits a small electric shock to the rump of the pig encouraging it to pass under the open door. The electrode is then raised again so that the pig behind does not touch it.

The automatic door eliminates the need for a preliminary conveyor for spacing the pigs out and hence also the risk of damage due to a live pig becoming caught between two conveyors. 10.5.79 as 003682(6pp1370)

NIED/ D12 53647A/30 =US 4165-593
Suspension loop for tubular package, esp. sausage skins - made by clip closed with one leg through eye of string knot
NIEDECKER H 08.01.77-DT-700641
*Q31 (28.08.79) *DT2700-641 B65b-61/14*

A hanger loop is attached to a gathered mouth of a tubular wrapper, and the mouth is closed by a U-shaped clip, by pulling a thread to form a loop, both sides of which are in the path of the clip, twisting the loop to form an eyelet; advancing the clip so that one leg engages the loop crossing and is then moved through the eyelet, and then closing the clip around the mouth, thus securing the thread and its loop to the gathered wrapper mouth.

The hanger loops are formed directly at the time of closing, so that the cost involved in fabricating, pre-assembling and automatically applying the loops are avoided. The loop can be reliably and simply attached. 4.1.78 as 866969 (9pp976)

GENM ★ D12 67915B/37 ★ US 4166-138
Bacon-like meat analogue prodn. - by co-extrusion of coloured and uncoloured doughs
GENERAL MILLS INC 13.06.77-US-806234
(28.08.79) A23j-03

The process comprises co-extruding coloured and uncoloured doughs through a common die to form a ribbon 1-2 ins. wide and 0.025-0.15 ins thick, contg. ≥1 region of each; partially cooking the ribbon in hot oil at 220-410°F; cooling; and cutting into sections.

The improvement consists of diverting portions of the coloured dough, and injecting portions into ≥1 uncoloured region to give a more random appearance.

The coloured dough contains 20-70 (esp. 40)wt.% water, 3-30 (5) wt.% fat, up to 15 (5) wt.% albumen, up to 15(15) wt.% protein isolate, up to 20(18) wt.% proteinaceous filler 0.1-8 (0.4) wt.% xanthan gum, up to 15 wt.% flavourings, and colouring. The uncoloured dough contains 15-40 (25) wt.% water, 15-40 (30) wt.% fat, 5-20 (10) wt.% albumen, up to 15 (10) wt.% protein isolate, up to 20(13) wt.% proteinaceous filler, 0.05-0.4 (0.1) wt.% xanthan gum, and up to 15 wt.% flavourings. 13.6.77 as 806234(5pp955)

SEAP- D12 72378A/40 =US 4166-140
Fish, esp. tuna, canning in twin turret machine - fed from single chute with ram reducing friction drag
SEA-PAC INC 01.09.76-US-719415 (06.09.77-US-830468)
*+Q31 (28.08.79) *US4116-600 +B65b-63/02*

Fish is carried by (a) forcing fish into a pair of side-by-side and lengthwise-aligned metering pockets to form a single slug of fish of twice the desired length and weight (b) severing the slug into two in the pockets, (c) sepg. the pockets and aligning each one with a can and (d) forcing the fish out of the pockets and into the cans.

The process is esp. used for tuna, and has increased prodn. capacity while enabling the prodn. of a higher quality pack with better wt. control and increased yield due to less fluid loss. The parent patent (72378A/40) claimed the appts. 6.9.77 as 830468 Div. ex 411660(15pp976)

BETT- D12 31907B/17 =US 4166-317
Hand-held trimming knife - with annular revolving blade and complementary adjusting ring for depth of cut
BETTCHER INDS INC 17.10.77-US-842584
*P62 (04.09.79) *DT2845-360 +B26b-29/02*

A gauge for a hand-held knife for trimming substances like meat has an annular member having a base for connection to the knife, and a flexible ring-like gauge part proper integral with the base but sepd. at one end when the gauge is concentrically connected to a ring-like knife. The base of the gauge can be adjusted axially of the knife.

Pref. the base has a threaded fastener the end of which overlies the free end of the flexible gauge part. The fastener prevents flexing of the flexible part in the direction away from the cutting edge of the blade.

The depth of the cut is simply controlled. 17.10.77 as 842584. (5pp1376)

See Also

D13 J7 9024457

D13: OTHER FOODSTUFFS

RALS ★ D13 66381B/37 ★ BE -875-943
Eliminating foreign matter from vegetable protein esp. soya - by centrifuging a suspension at below 50,000 g.s
RALSTON PURINA CO 01.05.78-US-901374
(16.08.79) A23j

The process comprises centrifuging a suspension of the protein at <50,000 g.s. Pref. after centrifuging the suspension, the foreign material is sepd., and the water is removed from the recovered protein fraction to give a prod. of 10-45% protein content on a dry basis.

The proces is applicable to all protein sepn. but esp. to the soya residue which is normally a waste prod. It enables recovery of a fibrous protein product, satisfactory both in colour and stability, which is suitable for use in dietectic foods, as a thickener in tomato products fruit juices, sauces and soups and as a humectant or a binder in minced meats. 27.4.79 as 875943 (15pp597)

MONT/ ★ D13 B/37 ★BR 7900-776
Whole citrus fruit juice extractor
MONTAGRONI N 09.02.78-IT-012469
(28.08.79) A23n-01 8. 2. 79 as 000776

KRFT ★ D13 66390B/37 ★CA 1061-166
Frozen milk shake stable against de-emulsification - contg. fat, protein, sugars, stabiliser, emulsifier and freezing point depressant
KRAFT INC 02.07.75-US-592404
A97 (28.08.79) A23g-09/04

Frozen prod. is made from a mixt. contg. protein (2. 4-3. 4 wt. %); fat (3. 5-5 wt. %); disaccharide sugar (I) (4-6 wt. %); monosaccharide sugar (II) (5-9 wt. %); stabiliser; emulsifier; polyhydrical alcohol f. pt. depressant (sufficient to give initial f. pt. < -4°C) and water (66-77 wt. %). All figs. refer to the finished prod. and ratio (II):(I) is 1. 2-1. 6:1.

This mixt. is pasteurised, then homogenised and dynamically cooled to < -7°C while injecting gas to give a prod. with 50-100% overrun. This whipped, cooled mixt. is then frozen; on subsequent thawing the prod. has the characteristics of a milk shake.

The f. pt. depressant is esp. glycerol and propylene glycol; the emulsifier is the monoester of these polyols, and the stabiliser Na carboxymethylcellulose, carrageenan, Na alginate, propylene glycol alginate, locust bean gum or guar gum.

Superior stability, i. e. the fat-water emulsion resists de-emulsification during whipping and freezing. 20. 1. 76 as 243880 (16pp1251)

GROL/ D13 17360S/10 =DS 2002-169
Fat powder mixtures
GROLITSCH E (GRO /) 19.08.69-US-851190
*(D23) (06.09.79) *DT2002-169 A23d-05/02*

Crystalline, pourable, storage-stable, powdered fat, opt. mixed with additives such as dried milk and phosphate, is obtd. The fat mixt. is heated to a temp. at most 15°C above the temp. at which the fat melts to a clear liquid. Any powdered additives may be added and the melt is homogenised. The homogenised mixt. is cooled, rapidly to a temp. in the lower third in the range crystallisation temp -m. pt., the melt is held at this temp. for up to 30 minutes and then gradually warmed to a temp. 10% under the clear melt pt.

The mixt. is atomised through a nozzle into a dry cold air stream at -15 to -30°C and the powder maintained at 0-10°C in a dry atmos. for up to 5 minutes. Further additives may be mixed with the powder. 19. 1. 70 as 002169 (9pp068)

KRAT- ★ D13 66394B/37 ★DS 2102-349
Frothy whipped cream machine - with perforated tube rotatable inside inner mixing tube of homogeniser
KRATT H MASCH FAB 19.01.71-DT-102349
P13 (06.09.79) A01j-13

A machine for the mfr. of frothy whipped cream consists of a narrow-gap homogeniser with an inner and outer mixing tube. A pipe, open at one end, can be revolved inside the inner mixing tube. It carries a helical pattern of radial holes, each of which can be made to be in line with a radial hole in the mixing tube.

This homogeniser is easy to clean and to reassemble. It can be readily adjusted to the various fat content regulations of all countries. 19. 1. 71 as 102349 (5pp39)

NEST D13 35486T/22 =DS 2158-295
Edible expanded granules - by covering beads of sugar syrup with powdered starch and heating
SOC PROD NESTLE SA 04.12.70-CH-017951
*(06.09.79) *BE-775-674 A23g-03*

Edible, expanded granules based on sugar are prepd. Drops of syrup contg. an expanding agent, esp. ammonium carbonate, are brought onto a layer of powdered, edible material, e. g. starch, heated to expand the agent and then dried. A second layer of powdered material may be added as a second layer before heating. 24. 11. 71 as 158295 (4pp068)

FARB D13 73111V/42 =DS 2315-29
Compressed sodium benzonate powder of increased bulk wt. - use as corrosion inhibitor and in food industry
BAYER AG 27.03.73-DT-315297
*E12 M14 (06.09.79) *DT2315-297 C07c-63/08*

Compressed sodium benzoate powder is obtd. by pressin sodium benzoate, contg. 0. 05-1. 0 wt. % water, through a front hole, plate or a ring hole plate. The compressed sodium benzoate is easily handled and stored and is usefu as a corrosion inhibitor in cooling systems. 27. 3. 73 as 315297 (2pp068)

SCHU- ★ D13 66403B/37 ★DS 2819-03
Compsn. for care of digestive tract of caged birds - contains sand finely ground hard baked goods and opt. anisole
SCHULTE F ZOOLOGISC 29.04.78-DT-819034
C03 (06.09.79) A23k-01/18

Compsn. comprises powdered sand (A) and finely-divided broken hard baked goods (B) at ratio 95:5-99. 5:0. 5. (B) has particle size 1-5 mm. The compsn. may additionally contain 0. 02 pts. anisole per 100 pts. mixt. The particle size of (B) depends on the size of the bird, esp. usefu is ground biscuit of particle size about 3 mm. (A) is esp. a mixt. of silver quartz sand, quartz sand and limestone grits at ratio 3:1:0. 5.

Pharmaceuticals and specialised feedstuffs are not required and the compsn. is used in the same way as conventional bird sand.. 29. 4. 78 as 819034 (2pp1251)

MULL/ ★ D13 66408B/37 ★DS 2841-48
Feedstuff esp. for dogs - comprises mixt. of meat components and starch carrier
MULLER E 23.09.78-DT-841487
C03 (06.09.79) A23k-01/10

Feed, esp. for dogs, comprises (a) 40-50% meat components (A) of protein content 30-40% and (b) 50-55% starch carrier components (B) consisting of cereal flakes prepd. in a rotating drier.

(A) is 50-60% dried meat pieces coated with fat, or residues from fat melting and 40% extrusion prods., made by the extrusion-expansion method, in the form of croquettes of 50-60% meat meal and 40-50% native starch carrier. The compsn. may also contain vegetable flakes, dry vegetables or grasses, dried milk or other milk products, vitamins and minerals.

The dry feed has esp. high nutritional value and can be pre-swollen with lukewarm water, milk, diluted sauces or meat broth, then fed to the dogs, either with a crumbly consistency or as a puree. It is useful in slimming diets. 23. 9. 78 as 841487 (2pp1251)

TUCH- ★ D13 66428B/37 ★DT 2808-176
Beverage tank interior cleaning control - by contact switches actuated by cleansing fluid jets
FA TUCHENHAGEN O 25.02.78-DT-808176
P43 (06.09.79) B08b-09/08

The interior to tanks contg. beverages e. g. milk or beer, is cleaned by introducing a cleaning fluid through spray nozzles which are either stationary with an all-round action or rotary. Contact switches are located at the most in-accessible spots of the tank to indicate whether the cleansing fluid jet has reached them or not.

This results in an automatic tank cleaning system which ensures that all interior walls have actually been flushed and disinfected. 25. 2. 78 as 808176 (7pp39)

KRON- ★ D13 66446B/37 ★DT 2808-652
Protein-enriched edible bran prepn. from wheat grains - and starch recovery, by rolling out, wet processing and protectively drying
FA KRONER H 24.02.78-DT-808652
(06.09.79) A23l-01/10

Nutritionally high-grade protein-enriched edible bran is prepd. by rolling out wheat grains to pastifiable flakes; kneading with water to a dough-like mass and sepg. by washing with water, into starch, soluble materials and a mixt. of bran, gluten and germ-embryo. The husk mixt. is dried protectively to the protein-enriched special food bran, while maintaining the natural gluten properties. No chemicals are added with the exception of the opt. ascorbic acid addn. to strengthen gluten in dough-formation.

The bran can be used (i) to enrich bread and pastry with ballast material, to overcome faulty nutrition, and (ii) as feedstuff. Starch yield can reach 93% and solids yield 99%. Sec.: prim. starch distribution ratio is 1:8 to 1:16. 24.2.78 as 808652(11pp200)

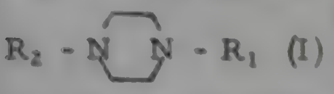
SANO ★ D13 66495B/37 ★DT 2809-209

1-Piperazine-alkanoic acid or ethanol derivs. - which improve ruminant feed utilisation and growth by suppressing rumen methane prodn.

SANDOZ-PATENT-GMBH 03.03.78-DT-809209

C02 (06.09.79) C07d-295/04

Piperazine derivs. are of formula (I):


$R_2 - N \quad N - R_1$ (I)

In the formula, R_1 is $-(CY)_m-(CH_2)_n-CX-Z-R_3$ or $-CH_2-CHOH-R_3$; R_2 is H, lower alkyl, lower hydroxyalkyl, phenyl, or phenyl substd. by a lower alkyl or lower hydroxyalkyl gp.; R_3 is adamantyl, or alkyl or alkenyl the methyl gp. of which may be substd. by 2 or 3 halogen atoms; X, Y are O or S; Z is O, S or direct bond; n = 0, 1, 2, 3, or 4; and m = 0 or 1, provided that when m is O then n is also O.

(I) are useful as animal feed additives for improving feed utilisation and growth of ruminants. In an artificial rumen system, (I) in a concn. of 1-50 (esp. 1-20) ppm give up to 95% reduction in methane prodn. and a corresp. absolute and relative increase in propionic acid prodn. (I) are administered to animals as a feed additive in an amt. of 0.1-100 mg per kg feed. 3.3.78 as 809209 (13pp280)

MORI/ ★ D13 66547B/37 ★DT 2905-669

Foodstuff with strengthening effect - contg. Paramaecium aq. extract in a carrier, e.g. lactose or royal jelly

MORI T 24.02.78-JA-020720

B04 (06.09.79) A23l-01/30 A61k-35/68

New foodstuff contains (a) a large amt. of a carrier and (b) a small amt. of a substance obtd. by extraction of Paramaecium with water or an aq. soln. The extract is pref. in the form of a dried extract, and may be obtd. from e.g. Paramaecium aurelia, P. bursaria, P. calkinsi, P. caudatum etc. The substance pref. consists mainly of lower-molecular fraction accompanied by a smaller amt. of a higher-molecular fraction. The substance is used in the form of a clathrate cpd., pref. with cyclodextrin.

The Paramaecium extract has a strengthening effect on the human body after oral admin. Thus, admin. to a 67 years old tuberculosis patient reduced susceptibility to colds and increased physical fitness, and admin. to a 76 year old woman suffering from loss of appetite and poor physical condition gave an improvement in appetite and physical condition. 14.2.79 as 905669 (18pp280)

CAMP- ★ D13 66564B/37 ★DT 2906-839

Biologically stable food, esp. soup concentrate - contains solid reducing water activity and can be diluted easily

CAMPBELL SOUP CO 28.02.78-US-882275

(06.09.79) A23l-01/40

Food prod. for dilution with 9-18 times its wt. of water before consumption contains flavouring and/or aroma, food particles, water to produce a total moisture content of 45-55 wt.% and water-sol. solids to cause a water activity of max. 0.84.

The prod. is specified as a conc. soup prod. It is biologically stable (specifically does not support the growth of bacteria, fungi or yeasts) and can be diluted easily, since it is not dehydrated.

Pref. prod. contains cooked meat and uncooked vegetables, cut into ca. 3 mm dice. It also contains 10-13 wt.% salt. It is produced by mixing the constituents, heating to ca. 93°C, placing the hot mixt. in a container and sealing this and finally heating the sealed container to destroy any fungi or yeasts present, pref. for 3 min. at 90°C. 22.2.79 as 906839 (9pp016)

GENM D13 02041Y/02 =GB 1552-200

Snack food prods. prepd. from hydrated flour based material - cooking under press., extruding and then compressing extrudate

GENERAL MILLS INC 27.08.75-US-608135

*(12.09.79) *BE-845-556 A23l-01/10*

Snack foods such as chips and puffs are mfd. by cooling an hydrated farinaceous material of 13 - 25% moisture to produce a dough, extruding the dough to both reduce the moisture content to 5 to 12% and to increase the volume by 3 - 7 times, and compressing at least portions of the extrudate to substantially reduce the cross-section when still pliable.

The cooling is pref. carried out at 235 - 350°F at a pressure of 500 - 1500 psig. The material is pref. a mix. of corn, rice, potatoes and a flavouring. After compression, the extrudate pref. has an irregular, patterned surface. 16.8.76 as 034014 (3pp1376).

RICT D13 14040A/08 =GB 1552-277

Blemish-preventing compsn. for apples, esp. with red skins - contg. light-absorbing agent and opt. biologically active cpds.

RICHTER GEDEON VEGY 28.10.76-HU-RI0600 (19.08.76-HU-RI0595)

*C03 E19 (12.09.79) *BE-857-947 A23b-07/14*

Apple peel partic. Jonathan peel spot is reduced by treating the apple with ≥1 light protective agent. Pref. the agent comprises light screeners, quenchers, radical scavengers and/or peroxide decomposers.

Specifically the light screener is Zn oxide and/or Ti dioxide. Alternatively the agent is (di)benzophenone deriv. benzotriazole deriv., tris triazolobenzene deriv., aromatic ester, substd. acrylonitrile deriv., organometallic cpd. and/or alicyclic dienone deriv..

A single treatment is sufficient to prevent the peel spot. The treatment is long-lasting i.e. the apples may be stored during winter. Toxicity of the agent is very low. 18.8.77 as 034766 (27pp924).

ISHI/ ★ D13 66645B/37 ★GB 1552-348

Mfr. of re:heatable pre-boiled rice - by boiling, freezing and reheating to 0-10 degrees C

ISHIDA Y 12.12.75-JA-147465

(12.09.79) A23l-01/18

Pre boiled rice which is reheatable without loss of flavour or form, is made by boiling the rice to convert substantially all the starch to the α form, breaking the rice into clusters, drying it if necessary, rapidly freezing the rice and then allowing it to warm to 0 - 10°C. Pref. freezing is effected in a commercial freezer, down to below -15°C. Alternatively the rice may be sprayed by liquid nitrogen. Drying may be effected by air.

The rice may be stored at room temperatures for long periods in conventional plastics or foil pouches. Alternatively storage may be effected in a domestic refrigerator or the like. 6.9.76 as 036860 (7pp525).

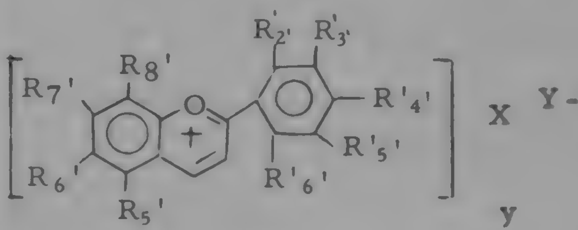
COKE D13 65316Y/37 =GB 1552-402

Deoxy-anthocyanidine salt prepn. from acylated flavanones - by borohydride reduction to flavan and oxidn. with halogenated benzoquinone

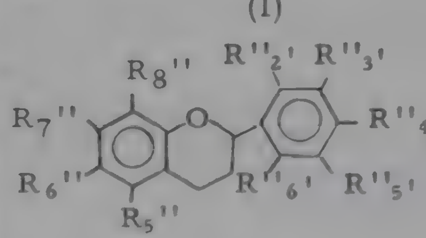
COCA-COLA CO 01.03.76-US-662742

*E23 (12.09.79) *DT2708-845 C07d-311/04 +C09b-61*

Prepn. of 3-deoxyanthrocyanidins of formula (I): are prepd. by oxidising a cpd. of formula (II). R_6' to R_8' and $R'_{3'}$ to $R'_{5'}$ are independently H, OH or 1-5C alkoxy. At least one of R_7' and $R'_{4'}$ are hydroxy. Proviso is that $R'_{3'}$ to $R'_{5'}$ do not include vicinal OH gps. $R'_{2'}$ and $R'_{6'}$ are independently H or 1-5C alkoxy. R'_5 is H or OH or 1-5C alkoxy. Xis an anion and y is its valency. R_6'' to R''_8 and $R''_{3'}$ to $R''_{5'}$ are independently H, OH, 1-5C alkoxy or OCOR. R is 1-5C alkyl or phenyl. At least one of R_7'' and $R''_{4'}$ is OH or OCOR. Proviso is that $R''_{3'}$ to $R''_{5'}$ do not include OH or OCOR. $R''_{2'}$ and $R''_{6'}$ are independently H or 1-5C alkoxy. R''_5 are H or OH, 1-5C alkoxy or OCOR.



(I)

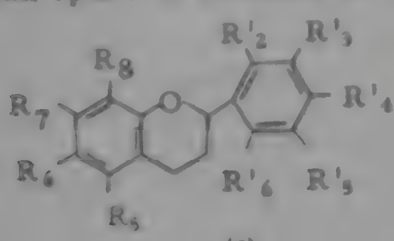


(II)

(I) are useful additives for food colouration. 1.3.77 as 008591 (15pp393).

COKE D13 65316Y/37 =GB 1552-403
Deoxy-anthocyanidine salt prepn. from acylated flavanones - by borohydride reduction to flavan and oxidn with halogenated benzoquinone
COCA-COLA CO 01.03.76-US-662742
*E23 (12.09.79) *DT2708-845 C07d-311/32*

Flavan cpds. of formula (I) are new. In (I), R_6-8 and R'_{3-5} each is H, OH, 1-5 C alkoxy or -OCOR (R is 1-5C alkyl or phenyl). R'_2 and R'_6 each is H or 1-5C alkoxy. R_5 is OH or -OCOR. Provisos are that ≥ 1 of R_7 and R'_4 is OH or -OCOR; R'_{3-5} do not include vicinal OH or -OCOR; and when R_6, R_8, R'_2, R'_3, R'_5 and R'_6 are all H and R_5 and R_7 are both OH, then R'_4 is other than H or OH.



(I)

One of seven specifically claimed cpds. is 5,7-diacetoxyflavan. (I) are prepd. from acylated flavanones. (I) are used in the prepn. of 3-deoxyanthocyanidins (II) e.g. by the process described in GB 1552402. (II) are pigments for use in foodstuffs. 1.3.77 as 31674/78 Div.ex. 1552402 (9pp992).

BRPE D13 07601Y/05 =GB 1552-420
Treating unicellular protein obtd. by fermentation - to remove colour by adjusting pH and then sepg.
BRITISH PETROLEUM LTD 19.09.75-GB-038519
*H04 (D16) (12.09.79) *BE-846-343 +A23l-01/27 C12b-01/26 C12c-11/24 C12d-13/06*

Treatment of single cell protein comprises forming an aq. suspension of pigmented microbial biomass consisting of cells of a naturally non-pigmented single cell microorganism, adjusting suspension pH to 6-8 (6-7) and sepg. the pigment free biomass. The pH may be adjusted using alkali or alkaline earth metal salt or NH_3 or NH_4OH.

Prod. has improved colour and may be used as a 'milk replacer' compsn. in animal feedstuffs. The yeasts used for the process are esp. those utilising straight chain hydrocarbons e.g. Candida tropicals or C. lipolytica. 18.8.76 (5pp963).

SATA/ D13 34730Y/20 =GB 1552-448
Rice polishing machine - with constant rice to water feed ratio maintained by admission means linkage
SATAKE T 29.10.75-JA-130807
*+P41 (12.09.79) *DT2647-373 B02b-03*

Rice is pearled in appts. which has a multi-holed debraming cylinder surrounding a roll and flow meters and regulators for the flow of rice and water to the space between the roll and the cylinder.

The water and rice flow is pref. coordinated to give a desired ratio. The rice flow is pref. regulated by a valve which is connected to a needle valve which controls the water flow.

A high yield of rice can be achieved at a high rate without cracking of the rice grains occurring. 28.10.76 as 044918 (8pp1376).

ROSS- ★ D13 B/37 ★IT 1031-008
Storage stable yogurt prepn.
ROSSI E CATELLI SNC 01.06.71-IT-025294
(30.04.79) A23c

TOPP ★ D13 66978B/37 ★J5 4098-348
Food preservation agent contg. ascorbic acid (salt) - with alkali charbonate hydrate and opt. anhydride and other additives
TOPPAN PRINTING KK 19.01.78-JA-004734
E13 (E34) (03.08.79) A23l-03

An agent to preserve freshness is composed of (a) ascorbic acid or its salt as major ingredient, (b) alkali carbonate hydrate or the mixt. of alkali caronate hydrate and alkali carbonate anhydride and (c) additives.

Ascorbic acid and its salt can absorb oxygen under alkaline condition in the presence of water. In the agent, water can be released from alkali carbonate hydrate and alkali carbonate can be decomposed with the additive to form CO_2 gas. Further the amt. of released water can be controlled freely by changing the proportion of alkali carbonate hydrate and alkali carbonate anhydride and the amt. of formed CO_2 gas can be controlled by replacing a part of alkali carbonate with calcium hydroxide. The agent allow the concn. of O_2, CO_2 and water in a package to be controlled and so that foods in the package can be kept fresh for long time.

As ascorbic acid or its salt L-ascorbic acid, D-isoascorbic acid and their sodium salts can be used. As additive ferrous sulphate, ferrous chloride, ferrous chloride hydrate, active carbon, bentonite, zeolite, activated clay, etc. can be used. Usually alkali carbonate is used 0.5-2 pt. wt. on 1 pt. wt. of ascorbic acid. 19.1.78 as 004734(4pp5)

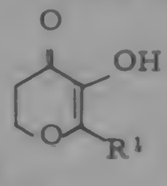
POLY- ★ D13 66984B/37 ★J5 4098-395
Prodn. of water-retaining miso free of discolouration - by mixing with pullulan and opt. condensed phosphate to stabilise quality
POLYPHOS KAGAKU KEN 20.01.78-JA-004942
(03.08.79) A23l-01/20

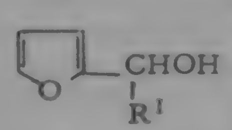
The method comprises combining pullulan opt. mixed with condensed phosphate in 'miso'. Pullulan is combine in an amt. of 5.0-0.1 w/w% in 'miso'. Pullulan and condensed phosphate are mixed in wt. proportion 1:1 and usually condensed phosphate is present in an amt. of 0.5 w/w% in miso'. Pref. condensed phosphate is the mixt. of Na hexametaphosphate 80% and K metaphosphate 20%.

The pullulan prevenrs the discoloration of 'miso' and improves water-holding property of 'miso' better than conventional additives. The mixt. of pullulan and condensed phosphate is highly viscous. Thus the quality of 'miso can be stabilised without deteriorating its taste and flavour and physical properties. 20.1.78 as 004942(3pp5)

SHIE ★ D13 67022B/37 ★J5 4098-767
3-Hydroxy-4-pyrone cpds. prodn. - by reacting furyl-carbinol cpds. with halogen in the presence of alcohol, useful as flavouring agent for food and feed
SHINETSU CHEM IND KK 30.12.77-JA-160715
E13 (03.08.79) C07d-309/40

3-hydroxy-4-pyrone cpds. of formula (I) are produced by reacting (1) furylcarbinol cpds. of formula (II) with (2) halogens in amts. of ≥ 2 molecules to 1 molecule of component (1) in the presence of (3) alcohols of formula R OH. In the formulae, R^1 is H or 1-7C monovalent hydrocarbon; R^2 is 1-7C monovalent hydrocarbons.

(I)


(II)


Component (1) and component (3) and, if desired, organic solvents (e.g. methyl chloride, carbon tetrachloride) are charged in a reactor. Then, halogens are introduced into the reactor with stirring at -50 to 100°C, pref. -30 to 100°C. The amts. of component (3) used are pref. ≥ 3 pts. wt. to 1 pt. wt. of component (1).

The prods. (used as flavouring agent for foods and feed) are obtd. safely and economically. 30.12.77 as 160715 (7pp1361)

TEIJ ★ D13 67208B/37 ★J5 4099-791
Oxygen absorbent for use with food - comprises ferrous acetate and sodium sulphate deca:hydrate
TEIJIN KK 25.01.78-JA-006130
E36 (06.08.79) B01d-53/02 B01j-01/22 C01b-13

The oxygen absorbent is used in a vessel (which is closed tightly) for a substance e.g. a food (which is likely to rot, decompose, change in quality etc., by contacting O_2). The absorbent agent absorbs O_2 smoothly without radical heat emission or emission of dangerous gas e.g. SO_2.

The absorbent is pale blue-green originally, and changes its colour to brown when it absorbs O_2. The absorbent can also be applied to an O_2 detector using the said colour changing characteristics. 25.1.78 as 006130(4pp55)

TEIJ ★ D13 67209B/37 ★J5 4099-792
Oxygen absorbent for hermetically sealed food containers - comprises ferrous acetate, sodium sulphate deca:hydrate and a filler
TEIJIN KK 25 01.78-JA-006131
E36 (06 08 79) B01d-53/02 B01j-01/22 C01b-13

An oxygen absorbent comprises a ferrous acetate, NA_2SO_4 $10H_2O$, and a filler. The oxygen absorbent is used in a vessel which is hermetically sealed for a substance such as a food (which rots, decomposes, changes in quality, etc.) to absorb the O_2 in the vessel effectively and to prevent the substance from eeteriorating.

The oxygen absorbent absorbs the O_2 without a radical heat emission, or emission of a gas such as SO_2. The absorbent shows pale blue-green originally, and changes its colour to brown when it absorbs O_2, thus the O_2 absorption process can be followed, hence, the freshness of the contents of the package can be determined. The absorbant can also be used as an O_2 detector in a certain atmos. using the colour changing characteristic. 25.1.78 as 006131(4pp)

TEIJ ★ D13 67210B/37 ★J5 4099-793

Oxygen absorbent for food containers and detectors - comprises ferrous acetate and sodium carbonate, providing colour change with oxygen absorption

TEIJIN KK 25.01.78-JA-006132

E36 (06.08.79) B01d-53/02 B01j-01/22 C01b-13

Oxygen absorbing agent comprises Fe (II) acetate and Na carbonate .10 H_2O. The agent is used in a vessel (which is closed tightly) for foods (which is likely to rot, decompose on contact or reaction with oxygen), in order to absorb the oxygen in the vessel effecitvely and to prevent the substance from rotting etc.

The agent absorbs the oxygen smoothly without radical heat emission, nor emission of a dangerous gas such as SO_2. The agent is pale blue-green in colour, and changes to brown on absorption of oxygen. Thus the oxygen absorption process can be traced and the freshness of the contents of the package can be determined. The agent can also be applied to an oxygen detector in a certain atmos. 25.1.78 as 006132(4pp55)

TEIJ ★ D13 67211B/37 ★J5 4099-794

Oxygen absorbing agent e.g. the use in food containers - contains ferrous acetate, sodium carbonate deca:hydrate and a filler, and changes colour on absorption of oxygen

TEIJIN KK 25.01.78-JA-006133

E36 (06.08.79) B01d-53/02 B01j-01/22 C01b-13

The O_2 absorbing agent is used in a sealed vessel contg. food, to prevent rotting, changes in quality etc. on contact with O_2.

This agent absorbs the oxygen smoothly without much heat emission, nor emission of a dangerous gas such as SO_2. The agent is pale blue-green originally, and changes its colour to brown when it absorbs oxygen, thus the oxygen absorption process can be visibly traced, hence, the freshness of the contents of the package can also be determined. This agent can also be applied to an oxygen detector in a certain atmos. using the colour changing characteristic. 25.1.78 as 006133(4pp55)

SUNR ★ D13 67260B/37 ★J7 9022-907

Silkworm feed for improving cocoon weight - comprises mulberry leaves sprayed with whisky distillation residue

SUNTORY LTD 29.01.74-JA-012374

C03 P14 (D16) (09.08.79) A01k-67/04 A23k-01/18

Fresh mulberry leaves are sprayed with whisky distillation residue, and the resultant is fed to silkworm. In the present method, cocoon weight can be improved without bad influence upon growth of silkworm. 29.1.74 as 012374 A23k-1/18, A01k-67/04 (9.8.79) SUNTORY LTD. (3pp22) (J50105479)

AJIN D13 35394Y/20 =J7 9023-970

Amylose-starch additive for foods - which are cooked at high temps.

AJINOMOTO KK 02.10.75-JA-119170

*(17.08.79) *J52044-248 A23l-01*

Amylose prepd. chemically, enzymatically and by seeding method can be used. The additive compsn. having suitable gelling property and suitable viscosity is prepd. by mixing suitable amt. of amylose or high amylose starch with starch. The compsn. is used instead of common starch.

The compsn. improves gelling on treating at high temp. and can be added to pasty foods, daily dishes (e.g. Hamburg steak, shao-mai, meat ball, etc.) and canned foods. 2.10.75 as 119170 A23l-1/00 (17.8.79) AJINOMOTO KK (3pp)(J52044248)

HAGI/ ★ D13 67298B/37 ★J7 9023-975

Extract soln. contg. active components of egg shell - prepd. by extracting egg shell with conc. acid or alkaline soln., neutralising and filtering

HAGIWARA Y 07.10.71-JA-078334

(17.08.79) A21d-02 A23l-01/32

Egg shell membrane is treated with conc. acid or alkaline soln. and the resulting decomposed soln. is neutralised and filtered. The filtrate contains effective components of the egg shell membrane. 7.10.71 as 078334 A23l-1/32, A21d-2/00 (17.8.79) HAGIWARA Y (3pp22)(J48040968)

SAOK ★ D13 67337B/37 ★J7 9024-415

Caesalpinia crista L concentrate prodn. - by mixing extn. liq. with water-sol. sugar soln. and concentrating or drying resultant

SANYO KOKUSAKU PULP 30.06.71-JA-047141

E24 (21.08.79) A23l-07/27 C09b-61

Aq. on alcoholic extracting liq. of Caesalpinia crista L is mixed with waterlsol. sugar soln., and the resulting mixt. concentrated or dried. The resulting concentrate or dried The resulting concentrate or dired material is readily soluble in water. 30.6.71 as 047141 C09b-61/00, A23l-7/275 (21.8.79) SANYO KOKUSAKU PULP (3pp22)(J48012825)

SNOW ★ D13 67345B/37 ★J7 9024-447

Protein recovery from fresh vegetables - by crushing, treating with alkaline substance, further crushing, adding calcium or magnesium salt, and heating rapidly with water vapour

SNOW BRAND MILK PRODUCTS 25.12.73-JA-143793

E33 (21.08.79) A23j-01 A23k-01

Fresh vegetable is crushed, treated with alkaline substance further crushed, mixed with calcium salt or magnesium salt and heated rapidly with water vapour to rapidly coagulate the protein which is then recovered. 25.12.73 as 143793 A23j-1/00, A23k-1/00 (21.8.79) SNOW BRAND MILK PRODS. (3pp22)(J50094147)

MILE D13 07069X/04 =J7 9024-452

Salt-free protein concentrate from oilseeds - prepd by aq acid extraction then e.g. isoelectric pptatn of the extract

MILES LABORATORIES INC 23.12.74-US-535944

*(21.08.79) *USB535-944 A23j-01/14*

New heat-coagulable viscous protein prod. (I) free from added salts is prepd. by (a) forming an aq. slurry of pH 5.1-5.9 contg. <15 w/v% solids of oleaginous seed matl. (II); (b) separating the liq. fraction and (c) recovering (I) from this fraction e.g. by isoelectric pptation or ultrafiltration. (II) is esp. defatted soya. Also new are meat substitutes prepd. from a heat set mixt. of (I) with a vegetable protein or meat prod.

(I) is recovered without alkali solubilization (which can cause protein denaturation); has a bland taste and by adjusting the pH can be converted to an easily pumped form. At pH < 5, (I) exudes water so can be washed to remove surplus carbohydrates without reducing its solids content. (I) can be formed directly into shape by conventional spinning or extrusion and the resulting fibres are stronger than those prepd. conventionally. These are useful as heat-setting binders to replace egg albumen, casein, whey protein etc. 19.12.75 as 150762 (clg.23.12.74-US-535944) A23j-1/14 (21.8.79) MILES LAB INC (7pp) (J51086149)

FUKO ★ D13 67346B/37 ★J7 9024-453

Fried bean-curd prepn. - by frying a mixt. of water and soybean curd protein in oil, after allowing mixt. to stand without evapn. of water

FUJI OIL KK 26.07.75-JA-091686

(21.08.79) A23l-01/20

A mixt. of water 100 wt.pts. and soybean curd protein 45-15 wt.pts., which contains no alkaline earth metal salt, is allowed to stand under such conditions that evaporation of water is inhibited, and is then fried in oil to obtain fried beancured. 26.7.75 as 091686 A23l-1/20 (21.8.79) FUJI OIL KK (3pp22)(J52015844)

KOIW- ★ D13 67347B/37 ★J7 9024-454

Soybean powder prepn. - by swelling, allowing a little germination, fermenting, freeze-drying and crushing

KOIWAI NOBOKU KK 04.08.75-JA-094822

(D16) (21.08.79) A23c-19 A23l-01/20

Soybean is immersed in water to swell it, kept at the grow

-ing temp. to cause a little germination; heated with vapour; fermented with Natto microorganism; freeze-dryed and crushed. 4.8.75 as 094822 A231-1/20;A23c-19/00 (21.8.79) KOIWAI NOBOKU KK (2pp22) (J52018851)

TOKF- ★ D13 67348B/37 ★J7 9024-455
Improving storage stability of fruit - using unsatd. oil or fat to avoid damage by microorganisms
TOKYO FOOD CHEMICAL 16.09.75-JA-111811
(21.08.79) A23b-07/16

Storage of fruits is effected with the use of unsatd. oil or fat esp. soybean oil or nucleotide. By the present method, fruits can be stored for a long period without being injured by microorganisms. 16.9.75 as 111811 A23b-7/16 (21.8.79) TOKYO FOOD CHEMICALS KK; MORIROKU SHOJI KK; TOMITA SEIYAKU KK (4pp22)(J52038054)

MILE D13 35897X/19 =J7 9024-457
Prepn of intermittently fused fibrous protein product - by extrusion through multi-orifice spinneret
MILES LABORATORIES INC 06.01.75-US-538820
*F01 (D12) (21.08.79) *US3953-612 A23j-03*

A semi-unitary protein prod. consisting essentially of a bundle of intermittently fused protein fibres is made by mixing a finely divided oilseed protein material (e.g. soybean concentrate isolate or soy flour) with water to give a 25-60 (pref. 35-50)% wt. mixt; heating the mixts. to 100-180°C (pref. 120-165°C) extruding the mass through a spinneret (pref. at 1000-2500 psi. but range of 500-5000 psi is possible) into an essentially inert gas medium whereby there is intermittent firing. Each spinneret has several orifices of 0.001-0.02 (pref. 0.003-0.07) inches diameter. The orifices are spaced a distance not greater than the dia. of orifice. The length/diameter ratio of the holes is pref. 10-50 (esp. 10-25). Heating of the mixts. is pref. effected by high frequency electromagnetic energy (e.g. 1-100 -megahertz). The spun fibre is used to prepare synthetic foodstuffs. 5.1.76 as 000050 (clg.6.1.75-US-538820) A23j-3/00 (21.8.79) MILES LABORATORIES INC (5pp)(J51091355)

AJIN D13 11585A/06 =J7 9024-458
Synthetic fats prodn. - using oil-in-water emulsions of fats, oils and cold and hot coagulating protein(s)
AJINOMOTO KK 21.06.76-JA-072934
*(21.08.79) *J52156-959 A23d-05 + A23j-03*

First oil-in-water emulsion composed of oil and fat, heat-coagulating protein and water is mixed with second oil-in-water emulsion composed of oil and fat, cool-coagulating and heat-dissolving protein and water.

Thus fat-like material which is similar to animal fat in appearance, taste, flavour and texture, can be prepd. artificially. The prod. can be combined with synthetic meat to give excellent taste and flavour and capable of being frozen without detriment to its quality. As oil and fat animal or vegetable oil and fat can be used, and through animal oil and fat contains cholesterol it can give fat excellent in taste and flavour. As heat-coagulating protein soy bean protein, egg white, gluten, etc. can be used, and as cool-coagulating protein gelatin and collagen can be used.

It is desirable to make the first emulsion in the form of the emulsion curd. The first O/W type emulsion is prepd. from oil and fat, heat-coagulating protein and water used in wt. ratio 1:0.5-5:2-10, pref. 1:1 3:3-5. The second O/W type emulsion is prepd. from oil and fat, cool-coagulating and heat-dissolving protein and water used in wt. ratio 1:2 10:5-20 pref. 1:3-5:10-15. The first emulsion and the second emulsion are mixed in wt. ratio 7-4:3-6. 21.6.76 as 072934 A23j-3/00, A23d-5/00 (21.8.79) AJINOMOTO KK (3pp)(J52156959)

CANA D13 79458W/48 =J7 9024-464
Candy filling - having stabilised aroma
CANADIAN PAT & DEV LTD (MIAC) 08.03.74-CA-194449
*(21.08.79) *J50125-065 A23g-03 + A231-01/09*

Candy filling is obtd. by heating a sugar-contg. mixt. to form sugar polymers, without browning or caramelising diluting the prod. with water to ca. 85-95% sugar content, cooling the diluted prod. and forming it into a smooth paste, and blending the paste with the desired aroma and flavour essence.

The sugar polymers may be oligosacchardies of D.E. 25-45, e.g. maltodextrin. Binders such as glycerol and polyethylene glycol may be added to assist the blending process.

The aroma and flavour are retained well by the polysacchardies. 7.3.75 as 027921 (clg.8.3.74-CA-194449) A23g-3/00;A231-1/09 (21.8.79) CANADIAN PAT & DEV LTD; (6pp)(J50125065)

SNOW ★ D13 67349B/37 ★J7 9024-4
Liq. cheese prepn. which can be aged in short period - by addin water to cheese curd or crushed green cheese and adding protea or lactobacillus
SNOW BRAND MILK PRODUCTS 29.06.72-JA-064497
(21.08.79) A23c-19/02

To cheese curd or crushed green cheese is added water to give liquid material, and the resultant is mixed with a small amt. of protease and lactobacillus to ferment it, thus giving a cheese which can be aged for a short period of time. 29.6.72 as 064497 A23c-19/02 (21.8.79) SNOW BRAND MILK PRODS. (6pp22)(J49025157)

QPPP D13 17258Y/10 =J7 9024-46
Egg white treated to give highly foamed and stable prod. - by addr of ethanol to either raw or dried egg white
Q.P. CORP (QPCO-) 15.07.75-JA-086948
*(21.08.79) *J52010-450 A231-01/32*

The treatment comprises adding ethanol to egg white with stirring. Ethanol is added in amt. 0.1-5 w/w% to egg white of raw eggs and 1-20 w/w% to dried egg white.

Ethanol sterilises the egg white and makes it readily water-soluble. The egg whites obtd. have wide use in confectionery to give high quality prods. 15.7.75 as 086948 A231-1/32 (21.8.79) Q P CORP (2pp)(J52010450)

NAKA- ★ D13 67350B/37 ★J7 9024-46
Fried egg prodn. - with addn. of vinegar soln. contg. egg shell an sodium bi:carbonate or sodium hydroxide
NAKANO SUMISE KK 12.08.75-JA-097207
E34 (21.08.79) A23b-05 A231-01/32

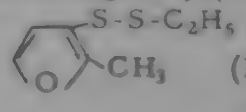
In the prepn. of fried egg in the conventional manner, a vinegar soln. contg. egg shell and sodium bicarbonate or sodium hydroxide is added in such an amt. that the amt. of vinegar is 0.01 to 0.25%. Improved antiseptic propert is attained. 12.8.75 as 097207 A23b-5/00, A231-1/32 (21.8.79) NAKANO SUMISE KK (3pp22)(J52021360)

QPPP ★ D13 67351B/37 ★J7 9024-46
Double-layered pudding prepn. - using egg-contg. material fo lower layer and a liq. of lower specific gravity as upper layer
Q.P. CORP 09.08.75-JA-096840
(21.08.79) A231-01/18

In the prepn. of a two-layered pudding by introducing two liquids which become sols. on heating and gels on cooling a material contg. eggs is used as the lower layer and a liquid having a lower specific gravity than is used as the upper layer material. 9.8.75 as 096840 A231-1/187 (21.8.79) Q. P. CORP (3pp22)(J52021366)

INFL ★ D13 67363B/37 ★NL 7903-34
Liver flavour agent for foodstuffs - comprises ethyl(2-methyl-3-furyl di:sulphide opt. used in combination with compatible flavou additive e.g. hexanal
INT FLAVORS & FRAGR INC 27.04.79-NL-003348 (19.02.75-US-551045)
C02 E13 (31.08.79) A231-01/23 C07d-307/64

The liver flavour of foodstuffs is built or modified by inco porating ethyl(2-methyl-3-furyl)disulphide (I) in an approp



(I)

riate amt. (I) may be used in conjunction with a chemically and org -oleptically compatible flavour add tive such as 4-methyl-β-hydroxye yl-thiazole, methylpyrazine, maltol, hexanal, monosodiu -glutamate, S-contg. aminoacids, hydrolysed vegetable- fish protein, etc.

Addn. of (I) to foodstuffs eg in amts. of 0.005-100 ppm esp. 0.05-50 ppm gives excellent liver flavour eg to soup, gravy, snacks, packaged foods, animal foods, etc. 27.4. as 003348 Div.ex 7600856 (+19.2.75-US-551170)(12pp41)

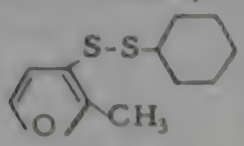
INFL ★ D13 67364B/37 ★NL 7903-349

Liver flavour agent for foodstuffs - comprises cyclohexyl(2-methyl-3-furyl) di:sulphide opt. used in combination with compatible flavour additive e.g. hexanal

INT FLAVORS & FRAGR INC 27.04.79-NL-003349 (19.02.75-US-551045)

C02 E13 (31.08.79) A23l-01/23 C07d-307/64

The liver flavour of foodstuffs is built or modified by incorporating cyclohexyl(2-methyl-3-furyl)disulphide (I) in an appropriate amt. (I) may be used in conjuction with a chemically and organoleptically compatible flavour additive such as 4-methyl-5-β-hydroxyethylthiazole, methylpyrazine, maltol, hexanal, monosodiumglutamate, S-contg. aminoacids, hydrolysed vegetable- or fish protein, etc.



(I)

Addn. of (I) to foodstuffs eg in amts, of 0.005-100 ppm, esp. 0.05-50 ppm gives excellent liver flavour, eg to soup, gravy, snacks, packaged foods, animal foods, etc. 27.4.79 as 003349 Div. ex 7600856(8pp513)

GELF/ ★ D13 67516B/37 ★SU -636-263

Neutralised vegetable hydrolysate prodn. - by first treating with anionite, and then with lime milk and ammonia, to prevent pptn. of gypsum, used in biochemical processing

GELFAND G D .31.01.77-SU-449130

(10.12.78) C13k-01/04

Vegetable hydrolysates are neutralised before further biochemical processing with lime milk and finally, with ammoniacal water.

The prepn. includes preliminary treatment of hydrolysate (before liming) with an anionite until the acidity drops to 65-95 mg. equiv./l.; sepn. of anionite, and the neutralisation with lime milk to residual acidity of 45-75 mg. equiv./l.

By this method, precipitation of gypsum mud is prevented; the consumption of lime milk is reduced, and the effectiveness of the process is enhanced.

Gelfand E.D., Bul. 45/5.12.78 31.1.77 as 449130 (2pp70)

NIRO D13 30858W/19 =SU -637-067

Instant milk powder prodn. - by a two-stage drying process starting from a concentrate

NIRO ATOMIZER A/S 22.10.73-DT-352894

*(27.12.78) *DT2352-894 A23c-09*

Milk, or similar liqs., is made into a powder by spray drying, pref. in the form of a concentrate, in a first stage using a hot gas whose temp. is >10°C higher than that required to dry the milk to its final moisture content, had the process had only one stage which resulted in the same degree of thermal spoiliation, but drying to a moisture content 2-15% (depending on the liq.) above the required final moisture content (the upper limit being that at which no agglomeration occurs); and then drying the resulting powder with a hot gas in a fluidised bed to the required final prod., fines having been sepd. from the exhausts of both stages, to such a degree that when the lines are added to the final prod. they do not adhere to it.

Prod. has a higher bulk density than had previously been obtd. using spray driers with rotating spray wheels. Better heat utilisation is obtd. due to the higher temp. in the spray-drying process. A starting material of rel. high solids content may be used without becoming spoiled. Pisekki J., Westerhard W., Bul. 45/5.12.78 21.10.74 as 078625 (3pp)

PFIZ D13 69274W/42 =SU -637-089

Polycondensn. of saccharides to sugar, flour and starch substits. - by dehydrating aq. solns. under vacuum and heating the syrup

PFIZER INC 05.04.74-US-458079

*A11 (A97 D17) (09.01.79) *DT2513-931 C08b-37*

Glucose and/or maltose in aq. soln., with up to 10 mol.% polycarboxylic acid catalyst suitable for foodstuffs, and opt. 5-20 wt.% sorbitol, gylcerol, erythritol, xylite, mannite or galactite, are heated under reduced pressure to give a substantially water-free syrup, which is then heated to 150-300°C under reduced pressure with sepn. of water formed by polycondensn. The reaction is ended before appreciable pyrolysis occurs. As substitutes for sugar (in conjunction with artificial sweeteners), flour and starch, and as a means of reducing fats in recipes for dietetic foods.

The reaction mixt. is more easily prepd. from soln. than from solid ingredients, discolouration and formation of unwanted by-prods., during prolonged heating at 110-150°C to form a melt before polycondensn. are avoided. Entrainment of solid particles by steam from the condensn before complete melting, causing blockage of pipes, is eliminated, and overall time is substantially reduced.

Senator P.J., Bul. 45/5.12.78 4.4.75 as 121319 (3pp)

UGLI= ★ D13 67636B/37 ★SU -637-109

Cheddar type cheese prodn. - involves three stages of maturing at controlled humidities of air followed by salting and two/stage pressing

UGLICH BUTTER CHEES 18.07.77-SU-508733

(15.12.78) A23c-19/02

Prodn. of cheddar-type cheese from milk of regions outside Altai and North Caucasus is made possible by maturing during the mid-stage in air exhibiting a humidity of 96-100%. This is preceded and followed by holding during 15-17 days at a temp. of 16-18°C and with air humidity of 92-94%. The acidity of the cheese mass before salting is set at 5.2-5.25, and pre-pressing below the layer of whey is followed by two-stage pressing during 2.5-3.0 h.

Zharenov D.A., Bul. 46/15.12.78 18.7.77 as 508733 (3pp89)

LIBU= ★ D13 67637B/37 ★SU -637-111

Fat-rich feed for young agricultural animals e.g. calves - contg. milk protein(s), non-milk fats, lactose, phosphatide(s), biologically active substances and water

LITH BUTTER CHEESE 27.08.73-SU-959116

C03 (18.12.78) A23c-11 A23k-01

Fat-rich feed for young animals (pref. calves) contg. a source of protein, non-milk fats, lactose and biologically active substances.

The pure nutrient value is improved and stabilised by the addn. of phosphatides and the use of milk proteins as a source of proteins.

The compsn. contains (in wt.%) milk proteins 1.0-10.0, nonmilk fats 15.0-45.0, lactose 1.0-10.0, phosphatides 1.0-10.0, biologically active substances 0.001-1.0; the balance is water.

Mitskevichius E.K., Voitkus V.V. Bul. 46/15.12.78 27.8.73 as 959116 (2pp70)

TAMA/ ★ D13 67638B/37 ★SU -637-112

Agricultural animal feed supplement - is prepd. by culturing yeast on vegetable hydrolysate, with addn. of mono:calcium phosphate and fermentation residue

TAMARCHENKO M E 06.06.75-SU-141378

C03 (18.12.78) A23k-01/12

Agricultural animal feed supplement is prepd. by growing yeast in vegetable hydrolysate with addn. of mineral salts including monocalcium phosphate and dried recycled and neutralised fermentation residue.

The supplement compsn. comprises (in wt.%): protein 35-47; hydrocarbons 25-37.0; fats 0.7-1.5; sodium 0.1-0.8; calcium 1.8-5.8; potassium 1.2-3.0; magnesium 0.3-0.5; sulphur 6.0-9.5; phosphorus 0.9-1.4; chlorine 2.5-3.5; fluorine 0.007-0.02; trace elements 0.22-0.59; riboflavin 0.0007-0.0018; nicotinic acid 0.014-0.025; choline 0.115-0.195 and water the rest.

The fermentation residue is evapd. to 78.88% moisture content and dried to 3-10% moisture content before use.

Tamarchenko M.E., Belyaev V.D., Krylov E.V., et al Bul. 46/15.12.78 6.6.75 as 141378 (4pp938)

UNIL D13 73278U/48 =US RE30-086

Randomised palm oil - used as component eg in margarine

LEVER BROTHERS CO 10.05.72-GB-021794

*(28.08.79) *NL7306-450 A23d-03*

A plastic emulsion food spread is prepd. comprising an aq. phase and a fat phase in the form of an emulsion. The fat phase is partly crystallised and comprises 5-40 wt.% of a triglyceride compsn. w.r.t. the fat phase.

The fatty acid residues of the triglyceride compsn. are in random distribution and consist of the acid residues of palm oil. The major proportion of the spread comprises an additional fat, such as corn, cottonseed, groundnut, saflower, sunflower, sesame or soybean oils.

The food spread can be prepd. in a soft tub form, having a penetration range from C_5, $\leqslant$ 900 gms. cm^2 to C20. 50-150 gms. cm^2. The compsn. may be spread directly at domestic refrigerator temps. 18. 9. 78 as 944048 reissue of US 3939282 (4pp931)

BUST/ ★ D13 67815B/37 ★US 4165-752
Tobacco substitute prepn. from whole coffee cherries - via intermediate prod. which can also be used for coffee
BUSTAMANTE C R 06.08.76-US-712356 (07.10.75-US-620277)
P15 (D18) (28.08.79) A24d-01/18

Coffee cherries are compressed to effect partial dehydration, comminuted, and the particles are roasted to give a brewable intermediate prod. This is then hydrated, and subjected to evapn. to produce a smokable prod.

Alternatively, the whole cherries are broken into particles, dehydrated, comminuted to finer particles, and roasted to yield the intermediate prod., which may then be treated as above.

The intermediate prod. can be used to prepare coffee or a smokable prod. It may be stored for one or two years and used for either purpose according to the state of the market. The whole coffee cherry is employed. The smokable material may be blended with tobacco or used by itself. 6. 8. 76 as 712356 (+ 5. 5. 76-US-683677) (5pp955)

LIFE ★ D13 67912B/37 ★US 4166-134
Chewing gum with improved flexibility retention - by mixing so that softener and humectant form separate phases
LIFE SAVERS INC 08.06.77-US-804840
(28.08.79) A23g-03/30

Chewing gum is prepd by mixing gum base and aq. softener to form a water-insol. phase, adding sucrose and finally mixing in 2-50 wt.% solid sorbitol humectant to form a chewing gum in which the humectant is provided in a water-sol. phase which is isolated from the aq. softener.

The aq. softener is pref. a reducing sugar syrup or corn syrup. The compsn. pref. contains 10-20 wt.% sorbitol, 0.3-2.0, pref. 0.5-1.2 wt.% flavouring is added prior to the sucrose. The gum base is conventional, and may include the usual plasticisers, anti oxidants etc.

The gum retains its flexibility for longer. 8. 6. 77 as 804840(7pp955)

STAU ★ D13 67918B/37 ★US 4166-142
Processed cheese contg. modified whey solids - and sodium aluminium phosphate-citrate salt emulsifier mixt.
STAUFFER CHEMICAL CO 25.07.77-US-818645 (03.02.75-US-546635)
(28.08.79) A23c-19/12

A cheese prod. contains process cheese, process cheese food, process cheese spread, or imitation process cheese, -3 wt.% emulsifier which is a 5:1 to 1:5 wt. ratio mixt. of sodium aluminium phosphate and sodium, potassium or calcium citrate, and 1-20 wt.% of a partially modified whey solids prod. This is prepd. by (a) adding a divalent metal ion to a cheese whey soln., and adjusting the pH to 6-8.5 at $\leqslant$ 140°F to ppte. the whey solids prod.; or (b) adjusting the pH of raw cheese whey contg. $\geqslant$ 20% acid cheese whey to 6-8 to cause pptn. of the modified whey solids.

The prod. has improved physical properties, and reduced tendency to fat loss. 25. 7. 77 as 818645 (+1. 5. 75, 23. 7. 76-US-573501, 707990)(4pp955)

NATT ★ D13 67935B/37 ★US 4166-173
Reagent soln. for efficient, pollution-free starch phosphorylation - comprising an alkali metal tri:poly:phosphate, water and an acid
NAT STARCH & CHEM CORP 15.05.78-US-905272
A11 F09 (A97) (28.08.79) C08b-31/02

A reagent soln. comprises water, 20-36 (pref. 30-34) wt. % an alkali metal tripolyphosphate and sufficient water-sol. acid of pKa $\leqslant$ 4.7 to provide the soln. woth a pH of 2.8-5.0, pref. 4.2-4.8. First 2-30 (pref. 3-10) wt.% the soln. is added to a starch cake contg. $\leqslant$ 45 (e.g. 35-44) wt.% moisture then the impregnated starch is dried and heated to form an orthophosphate starch monoester.

The monoester is useful in the prodn. of foods and paper, esp. as a pigment retention aid in paper mfr. The starch is efficiently impregnated, very little reagent being lost to the effluent and causing pollution problems. The impregnation may take place in a convenient appts., e.g. centrifuge, which does not require special metering of reagent, prolonged mixing or separate processing equipment such as sprayers, which would interrupt the process continuity. 15. 5. 78 as 905272(7pp558)

MITN D13 44357A/25 =US 4166-807
Oxygen absorbent used as food preservative - contains iron, small sulphur quantity to suppress hydrogen evolution and metal halide
MITSUBISHI GAS CHEM IND 08.12.76-JA-147452
*A81 E36 (04.09.79) *DT2754-708 +B01j-27/02 B01j-31/02*

An oxygen absorbent comprises Fe contg. S, in amt. of 0.05-5(0.1-1)wt.% based on Fe, and $\geqslant$1 metal halide in amt. of 0.001-300(1-100) pts. wt. per 100 pts. wt. Fe. The Fe is pref. in the form of powder foil fibre or chips. The absorbent may opt. contain water.

A filler e.g. active C, alumina, etc. and a binder e.g. CMC hydroxymethyl cellulose alkylcellulose Na-CMC starch, PVA and/or tragacanth gum may be included.

The absorbent is used in the preservation of foodstuffs. 28.11.77 as 855316. (8pp964)

NHYD D13 52431W/32 =US 4166-839
Clacium phosphates of animal feed quality - obtd. by reacting calcium carbonate and phosphoric acid in open-ended reactor
NORSK HYDRO A/S 19.03.74-NO-000984
*C03 E33 (04.09.79) *BE-826-881 C01b-25/26 +C01b-15/16*

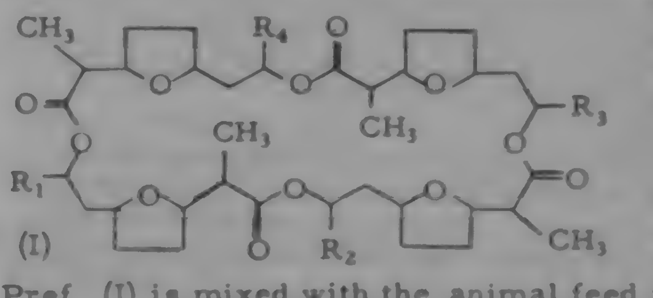
Prepn. of animal feed grade mono- and di-calcium phosphate comprises introducing (A) aq. $CaCO_3$ suspension of concn. 45-65wt.% with particles of size 3-50µ which is preheated to 50-120°C and (B) pure, conc. phosphoric acid soln. contg. 74-88wt.% H_3PO_4 which is preheated to 100-150°C into a short tubular reaction zone having a closed first end and an open second end.

The materials are mixed and react to produce the calcium phosphate and gas as a foam. The gas is used to eject the prod. from the open end of the reaction zone before reaction is complete into a gaseous atmos. where the stream breaks up into individual particles which remain freely suspended in the atmosphere as the reaction is completed.

The resulting moist and free flowing Ca phosphate particles are then collected without further quenching. 18.7.77 as 816869 (+19. 3. 75-US-560086) (9pp945)

CHUS D13 16289B/09 =US 4166-865
Animal e.g. cattle, sheep or pigs growth promotion - by administering macrotetrolide antibiotics esp. nonactin, monactin, dinactin, trinactin, tetranactin or polynactin (NL 20.2.79)
CHUGAI SEIYAKU KK (NIPK NIPK) 18.08.77-JA-098996
*B02 C02 (04.09.79) *DT2835-936 A61k-31/34*

The growth of domestic animals is promoted by oral admin. of $\geqslant$1 macrotetrolide antibiotic of formula (I). In (I) R_{1-4} are each lower alkyl, pref. (m)ethyl. Pref. (I) is nonactin, monactin, dinactin, trinactin or tetranactin.


(I)

Pref. the effective amt. of (I) is 0.01-100mg/day per kg of body wt. of the animal

Pref. (I) is mixed with the animal feed in a conc. of 0.5-1000 ppm. The animals are cattle, sheep and swine. 15. 8. 78 as 933912 (4pp924)

RALS ★ D13 68071B/37 ★US 4166-867
High performance, palatable horse feed prepn. - by coating extruded feed with vegetable oil contg lemon oil
RALSTON PURINA CO 09.02.78-US-876306
C03 (04.09.79) A23k-01 A23l-01/30

Prepn of a horse feed comprises grinding and extruding at 115°-163°C to a bushel wt. of 32lbs/bushed and a particle size of $^1/8$-3inch. and a mean dia. of 0.15-0.6 inches. a combination of 35-65% of wheat, wheat flour, wheat meal by-products or corn, 10-35 of soybean meal, soy flour, peanut meal, cottonseed meal or safflower seed meal,: 5-30% of soy hulls, cottonseed hulls or rice hulls, and 25-35% added moisture.

The extruded material is then dried and coated with -10% of soybean oil, corn oil, safflower oil, cottonseed oil or peanut oil. Improvement comprises adding 0.0003-0.003% of lemon oil to the coating.

Lemon oil enhances the palatability of the extruded horse feed, the feed is readily consumed by even the most difficult of horses, and does not distort the nutritional balance of the ration. 9.2.78 as 876306 (5pp957)

ANDO/ D13 70058W/42 #US 4166-868

Ready-to-eat rice product - by soaking, gelatinising, pressing and treating rice grains in hot oil

ANDO M 27.03.74-JA-034917 (31.12.74-US-537821)

*(04.09.79) *NL7416-833 A23l-01/18 + A23b-07/02*

Ready-to-eat rice which can be reconsituted into a foodstuff in the form of original rice grains is produced by (1) soaking grains of edible rice in water or liquid seasoning at <70°C to result in soaked rice having a water content of 30-34 wt.%; (2) gelatinising the soaked rice; (3) reducing the moisture content of the gelatinised rice to 18-70 wt.%; (4) forcibly passing the resultant rice grains between rolls spaced 0.1-1.0 mm apart so that the grains are pressed and flattened and the internal struction of the grain is irreversibly changed but the grains are not cracked;(5) reducing the moisture content of the resulting grains to 8-25 wt.% and (6) frying the rice grains obtained in oil at 130-200°C to puff the grains, such that they reconstitute to the form of original rice grains upon adding boiling water.

Rice foodstuffs such as pilaf and curried rice can be made ready to eat a few minutes after simply mixing them with hot water. 27.10.77 as 846947 (+25.11.75-US-635254) (5pp990)

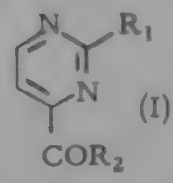
FIRM D13 51922A/29 =US 4166-869

4-Acyl-pyrimidine and 2-methyl-4-acyl-pyrimidine derivs. - used as aromatising agents esp. for meat prods. and also pharmaceuticals, feedstuff, etc. (NL 13.7.78)

FIRMENICH SA 10.01.77-CH-000227

*B07 C02 E13 P15 (B03 D18) (04.09.79) *DT2800-443 A23l-01/22*

The animal, grilled, roasted and fatty flavour notes in foodstuffs, beverages and animal feeds are enhanced or improved by addn. of 0.02-20 ppm (by wt. based on the materials) of ≥ 1 pyrimidine cpds. of formula (I). In (I) R_1 is H or methyl and R_2 is 1-6C lower alkyl.



(I)

Pref. the foodstuff is meat, meat imitating or a meat contg. consumable material. Pref. (I) are 2-methyl-4-acetylpyrimidine, 2-methyl-4-propionyl-pyrimidine, 4-isovaleryl-pyrimidine, and 2-methyl-4-isovaleryl-pyrimidine. (I) are useful in pharmaceutical prepns. and tobacco prods. 6.1.78 as 867367 (7pp924)

See Also

D16 DS 2551411 D23 GB 1552397 D16 GB 2015316
D16 J7 9024473 D16 US 4166004 D23 US 4166823

D14 : FOODSTUFF MACHINERY

YAMA/ ★ D14 66392B/37 ★CA 1061-273

Bucket conveyor - with means to move the buckets into contact during horizontal working runs

YAMATO H 15.12.75-JA-150067 (07.08.75-JA-096374)

(28.08.79) A23l-01/16

Bucket conveyor comprises a series of buckets connected at their sides to a pair of driving chains. The connection is effected by spaced first links of the chains, between which first links sets of second links not connected to the buckets are located.

During horizontal running, rollers carried by the first links run along tracks which do not support the sets of second links so that the second links can hang in an unextended configuration allowing the buckets to touch. For running with the buckets spaced, for example on vertical runs, or when the chains pass over sprockets, the tracks support all the links and thus the sets of second links are extended and the buckets moved apart.

Contact of the buckets along a working run enables more buckets to be present at any one time in the working run and thus output is enhanced. Used in the mfr. of cooked noodles by passing the buckets through a succession of cooking baths. 28. 7. 76 as 257957 (13pp525)

WYSS ★ D14 66516B/37 ★DT 2810-507

Calender with stack of flexible sleeve cylinders - has nip forming cylinders disposed above coacting cylinders provided with gravity correcting fluid throttle valves (NL 4.9.79)

ESCHER WYSS AG 01.03.78-CH-002197

A32 J02 P41 Q62 (06.09.79) A23g-01/12 B02c-04/36 B29d-07/14 D06b-23/02 D21a-01 F16c-13

Calender having a number of cylinders coacting with one another and forming nips has each of the cylinders provided with a flexible sleeves rotatable about fixed cores and pressed into nip formation by pads. Pads of nip forming sleeves are connected to the same fluid supply source via lines, whereby the pressure in lines for nips formed by cylinders disposed in a common horizontal plane is equal and, the line for the cylinder which is disposed above its corresp. nip forming cylinder is provided with a pressure regulator to compensate for cylinder flexure induced by gravity.

Used for processing particulate or pasty materials such as foodstuffs, pigments or plastics materials. Pref. grinding cocoa beans for mfg. chocolate. Constant linear pressure at the nip of all cylinders disposed in different horizontal planes is warranted. In case of chocolate sandy taste or excessive fattines are prevented by grinding within the size of 15-25 µ. 10.3.78 as 810507 (16pp536)

SULZ ★ D14 66613B/37 ★FR 2410-503

Chamber for radioactive irradiation of granular animal feed, etc. - gives continuous distribution for uniform radiation dosing of all prod.

SULZER FRERES SA 01.12.77-CH-014698

K08 (03.08.79) A23k-01 B01j-01/10

The installation comprises a vertical cylindrical irradiation chamber, contg. a coaxial, vertical, cylindrical support for radiation sources. Conveying equipment is included which carries the prod. successively over both circumferential surfaces of the support.

One vertical shaft rotary agitator is mounted inside the cylindrical support and another inside the annular space between support and chamber wall. These agitations rotate about their respective vertical axes and the axes themselves are rotated about the central axis of the irradiation chamber.

Continuous conveyors e.g. feed screws, are fitted to charge and discharge material to and from the irradiation chamber. One conveyor is linked to the inside of the radiation source support and the other conveyor is linked to the annular space and between support and chamber wall.

The irradiation chamber pref. has a top screening cover on which is mounted motor-driven planetary gearing to drive the agitators. Air under pressure is pref. introduced to fluidise prod. in the irradiation chamber.

The prod. is passed continuously through the chamber and distributed over the radiation source support so that all the prod. receives a similar dose of irradiation. 17.1.78 as 001270 (13pp448)

MURP/ ★ D14 66703B/37 ★GB 2015-715
Vending dispenser for snow cones - with flavouring deposited on shaped mass of flaked ice
MURPHEY J D 08.02.78-US-875982
(12.09.79) A23g-09/04

A snow cone dispenser includes a cup delivery mechanism which delivers a cup to a cone-making station. While at this station a tubular collar is placed above but in contact with, the cup rim and flaked ice is introduced into the cup so that it also fills the collar. A domed plunger is pushed onto the top of the ice to form a shaped top to the prod. A quantity of syrup flavouring is delivered onto the top of the prod. after the plunger and collar have been removed. Finally the cup with shaped ice is removed by the customer

The dispenser forms a snow cone prod. having a charge of flavoured flaked ice. The appts. forms a snow-cone at the time of sale and avoids the problems of storage of this type of prod.. 8.2.79 as 004483 (17pp295).

BELY/ ★ D14 67400B/37 ★SU -636-035
Cyclone for pneumatic fodder components mixing - has rib guides on inner surface of bell to scatter fodder evenly over bunker area useful in animal, e.g. cattle, breeding
BELYAEVSKII YU I 10.03.76-SU-333987
P41 (06.12.78) B04c-01/10

The cyclone comprises a casing contg. a receiving chamber, central tube and bell at the bottom.

For even scattering of the fodder, there are rib guides on the inner surface of the bell.

The fodder mixt. from the pneumatic system is fed under pressure into the receiving chamber, where air and fodder are separated by their rotary motion and friction of the fodder against the walls. The flow of fodder rotating on the inner conical surface of the cyclone enters the guides and is scattered evenly over the bunker as it leaves the aperture in the bottom. The guides can be set appropriately for the filling of a bunker of any shape.
Belyaevskii Yu.I., Karpov V.P., Bul. 45/5.12.78 10.3.76 as 333987 (2pp18)

ODFO= ★ D14 67733B/37 ★SU -637-302
Device for packaging plastic consistency products - has pusher-rod drive in form of a beam so that roller can interact with pusher rod
ODESS FOOD TECH INS 26.01.77-SU-447645
Q31 (18.12.78) B65b-25/06

Device for packing plastic prods. comprises a mechanism for supplying the packing material, shaping mechanism proportionator, rotor with hollows, having raising-lowering pusher-rods with a drive, and a mechanism for closing up the packed material. Productivity is increased and operation is more reliable, by making the drive for the pusher-rod as a beam having drive cams, connecting rods, and a template, fastened to the rods, so that a roller can interact with the pusher-rod.

Packing strip is drawn from a roll, fed over a guiding roller, and pressed by a pressure strip. The packing mechanism draws off a predetermined length of film, while a needle mechanism applies the required data markings to the film. The film passes between knives which cut it to length. The length is guided to the punching die for shaping, and after being placed in position, it is formed into a box shape and dropped into one of the hollows in the rotor.
Blagodarskii V.A., Spivak B.I., Beletskii V.Ya. et al. Bul. 46/15.12.78 26.1.77 as 447645 (4pp29)

DEAN- ★ D14 67822B/37 ★US 4165-81
Automatic pressure sensing system in pump outlet - generating electric signals for controlling pump speed
DEAN J MEAT CO 12.09.77-US-832195 (04.09.75-US-610301)
(28.08.79) A22c-11/02 B29b-05/04

In an extruder, a pump moves semi-fluid material. A flui-filled bladder is disposed in the outlet of the pump to sense the pressure of the material. A fluid-filled bellows is in fluid communication with the bladder for sensing changes in pressure in the bladder and for expanding in response to a pressure change within the bladder. Electric signals are generated in response to expansion of the bellows the electric signals being used to vary the pump speed.

The appts. allows the continuous formation of discrete solid prods. from semi-fluid material. It is partic. used for producing frozen foods in individual discrete portions. Careful control of the flow allows the prodn. of articles with very close weight tolerances. 12.9.77 as 832195 Div. ex. 4124339 (+4.9.75-US-610301) (18pp295)

BEAF ★ D14 67968B/37 ★US 4166-486
Nozzle structure for denaturing food products - with internal duct for injecting agent in streak form into extruded food
BEATRICE FOODS CO 10.01.78-US-868388
Q31 Q39 (04.09.79) B65b-01/04 B67c-03/02

Appts. for denaturing flowable comminuted meat using an edible dye includes a nozzle structure formed by a planar-side-walled conduit extending from a source of the meat to an outlet extending laterally of the longitudinal axis of the conduit. A tubular duct is mounted within the conduit and spaced inwardly from the side walls. The duct is connected to a source of edible dye and extends to a discharge end adjacent the conduit outlet. The conduit may be formed by a tube having internal, radially directed vanes.

Used for denaturing food prods. not intended for human consumption. The nozzle construction minimises blurring of dyed streaks. generated in the food in order to distinguish clearly the prods. not intended for human consumption. The streaks are applied so as not to contact previously or subsequently extruded prod. in a prod. mass. 10.1.78 as 868388. (8pp1044)

See Also

D18 US 4165618

D15: WATER TREATMENT

ABET- ★ D15 66325B/37 ★BE -874-620
Large scale mfr. of methane from organic waste e.g. manure - by continuous mechanically handled contacting with anaerobic microorganisms
A-BETONG AB 06.03.78-SW-002501
E17 (05.09.79) C12d

The substrate is passed through a pretreatment chamber in which it is heated to at least the temp. at which it is to be processed in the main treatment chamber. The temp. in the pretreatment chamber is pref. sufficient to pasteurise the substrate, e.g. between 65° and 75° C.

From the pretreatment chamber, the substrate is transferred to the main treatment chamber where it is mixed with the culture of microorganisms. The temp. in the main treatment chamber is pref. between 50° and 60° C.

Continuous process delivers uninterrupted gas supply Provision is made for continuous replenishment of substrate and continuous extn. of waste, ensuring full utilisation. Mechanised handling of material eliminates manual labour. 5.3.79 as 874620 (34pp448)

ERAP ★ D15 66337B/37 ★BE -874-671
Addition polymer with lateral beta-hydroxy poly:sulphonium gps. - prepd. by reacting epoxy gp. contg. polymer with mercaptan and converting to poly:sulphonium
SOC NAT ELF AQUITAI 08.03.78-FR-006723
A28 C03 F06 (A87 A91) (07.09.79) C08f C08j

A polymer with side chains having terminal sulphonium gps. and an OH gp. in a posn. β w.r.t. these gps. is prepd. by treating an epoxidised polymer with a mercaptan and converting the thus formed polysulphide into polysulphonium. This process is now improved by eliminating the remaining epoxy gps. by means of an acid prior to converting the polysulphide into polysulphonium.

The process gives β-hydroxylated polysulphonium good yields and purity and with the reqd., predetermined amts. of hydrophilic gps. The sulphonium polymers obtd. are more or less swellable in water or completely water soluble according to requirements. The process permits synthesis of biodegradable β-hydroxylated-polysulphoniums

Polymers are used for ion-exchange resins, textile finishing agents, flocculants, thickeners, germicides fungicides, dyeing aids etc. 7.3.79 as 874671 (14pp950)

DYNN ★ D15 66375B/37 ★BE-875-919
Directly usable alkaline aluminate prodn. in high yield - by spray drying their aq. soln. using a spray drying aid, esp. sorbitol, in soln.
DYNAMIT NOBEL AG 29.04.78-DT-819004
E33 F09 L02 (16.08.79) C01f

Alkaline aluminates (I) are prepd. by spray drying their aq solns. contg. 1-6 moles/l. of alkaline oxide and a mole ratio >1, pref. 1.1 to 1.8 between the alkaline oxide and Al_2O_3,, and, pref., also contg. in soln. a spraying aid. Pref. gases heated to 230-600° C are used heat carriers.

(I), partic. sodium aluminate, are used as flocculating agents in water treatment, paper making etc. and as auxiliaries in the construction materials industry in the prepn. of rapid setting foundations. (I) are prepd. in a high space/time yield, with good flow and overall handling properties, and directly useable in their applications without any further conditioning or pitting of the drier. 27.4.79 as 875919 (20pp1365)

TETR ★ D15 66384B/37 ★BE-875-961
Treating water for aquariums using cation exchanger - to remove transition elements and regulate calcium:magnesium ratio
TETRA WERKE GMBH 05.05.78-DT-819636
(16.08.79) C02b

Process giving simultaneous regulation of a defined molar ratio of Ca, Mg and alkali metals, comprises using a cation exchanger having a decreasing affinity for (1) transition elements (2) alkaline earth elements and (3) alkali metals in that order.

The exchanger is charged (a) with Ca/Mg ions in molar ratio from 200:1 to 1:10 where a normal soft water is required; (b) with H ions where a tropical water is required having a low carbonate hardness; (c) with Na ions where a water with low total hardness and high carbonate hardness is required; (d) with Ca/Mg ions in molar ratio from 1:1-1:2 where water corresp. to sea water is required. The cation exchanger with the Ca/Mg ratio as in (a) above is novel.

Process is used partic. for aquarium water. It provides water corresp. to natural conditions resulting in optimum conditions for plants and animals in the water. 30.4.79 as 875961 (-pp597)

ENTW- D15 40052V/22 =DS 2253-743
Clarifying waste waters contg nitrites - oil and emulsions, by adding nitrite-decomposers, pref. sulphamic acid, to ferric chloride-contg waste water stream before neutralising
EFA ENTWICKLUNGS 02.11.72-DT-253743 (00.00.72-DT-232510)
*(06.09.79) *DT2253-743 C02c-05*

Waste water contg. oil, emulsions and nitrite is clarified in plant comprising on the one side a reaction section and on the other side a pumping and regulating section. To the waste water is added a measured amt. of ferric chloride and a cpd. decomposing nitrite, e.g. aminosulphonic acid.

The plant includes collecting appts. chemical storage tank, flocculating and washing appts. 2.11.72 as 253743 Add to 2232510 (5pp068)

FARH D15 41741Y/24 =DS 2555-693
Removing mercury from effluent water e.g. from electrolysis cells - by two-stage extraction with trialkylamines, and regeneration of the organic phase with alkaline brine to form fresh electrolyte
HOECHST AG 11.12.75-DT-555693
*E36 J03 (E32) (06.09.79) *BE-849-347 C02c-05.08 +C01g-13*

Mercury ions are removed from waste water, e.g. obtd. in the electrolysis of alkali chlorides, by solvent extraction in a continuous two-cycle process. The waste water is adjusted to pH ≤3, and a chloride ion concn. of ≥2 mols. per mol. Hg and mixed with a soln. of a solvent immiscible with water and a mineral acid salt of a trialkylamine with 8-13C alkyl gps. in a ratio of 10:1 to 1:10. In the 1st cycle previously used solvent extracts the major part of the Hg ions from the aq. phase. In the 2nd cycle extn. is continued until the aq. phase contains less than 0.01 mg Hg ion per litre. Part of the solvent from the 2nd cycle is returned to the 1st phase and the remainder, contg. at least 10 g Hg per litre is treated with brine (250-300 g NaCl per litre) and NaOH to convert the amine salt to the free amine. The organic phase may be recycled and the aq. phase contg. Hg may be returned to the electrolysis process. 11.12.75 as 555693 (6pp068)

SCHL- D15 78507A/44 =DS 2717-047
High pressure membrane cell - having upper and lower sections flanged together with conical distributor
SCHLEICHER & SCHULL 18.04.77-DT-717047
*J01 +R16 (06.09.79) *DT2717-047 B01d-31*

A high-pressure membrane test cell for use in membrane filtration and reverse osmosis consists of an upper part and a lower part. A thread near the top of the upper part terminates in shoulders, against which a connector screwed in fromt outside, and a distributor screwed in from inside, abut and compress a seal ring between them to an exact size. The lower part has a cup-shaped recess with shoulders which define an exact size for the compression of a seal ring by the upper part. A second recess in the lower part holds parts of the filter support.

The pressure space into which the medium enters tangentially ensures a high precision reproducible distance between distributor base and top of membrane or filter. 18.4.77 as 717047 (6pp39)

NIFI- D15 89883A/50 =DS 2724-724
Heavy metal recovery from waste water - by concn. followed by electrodeposition
NIHON FILTER KK 01.06.77-DT-724724 (00.00.76-DT-623277)
*M28 (06.09.79) *DT2724-724 C02c-05/12*

The parent patent describes the treatment of effluent contg. heavy metals for the regeneration of the metals and recovery of the enriched electrolyte produced in a cell. The effluent is contacted with an ion exchanger, the exchanger regenerated by washing with enriched electrolyte from the cell, and the eluate contg. the heavy metal ions recycled to the cell.

In the present patent, by interrupting the electrolysis process, the ion exchanger is loaded using the soln. from the cell which contains residual heavy metal ions. Treated effluent is obtd. from the ion exchanger.

Effluents from various metal plating or surface treatment processes are handled, with recovery of pure metals at high current efficiencies with simple equipment and low consumption of chemicals. 1.6.77 as 724724 Add to 2623277 (6pp913)

METG D15 10136B/06 =DS 2733-131
Atomiser lance for wastes incinerator - with coaxial tubes and tangential bores for injecting agent
METALLGESELLSCHAFT AG 22.07.77-DT-733131
*J09 Q73 (06.09.79) *DT2733-131 F23g-07/04*

An atomising device for the combustion of fluid or pasty waste, e.g. oil sludge or sewage sludge in incinerators, consists of an inner tube for the injection of sludge and a coaxial outer tube for an injection agent such as compressed air or steam. A sealing flange at the incinerator end of the inner tube which can be moved axially inside the outer tube closes the injection agent annulus. The ports for the injection agent (pref. 2-5) are arranged tangentially in the wall of the inner tube near that flange.

This effects a 100% atomisation of the injected sludge and is immune to thermal effects. 22.7.77 as 733131 (4pp39)

NITT D15 36891A/21 =DS 2749-295
Water-soluble cationic vinyl polymers - as flocculants and clarifying agents still contg. salts, for organic sludges and waters
NITTO CHEM IND KK (MITR) 04.11.76-JA-131686
*A14 (A91) (06.09.79) *DT2749-295 C08f-20/34*

Prepn. of cationic polymer comprises polymerisation of monomers of formula $CH_2{=}C(R_1)COOR_2N^+R_3R_4R_5\ X^-$ (in which R_1 is H or Me; R_2 is CH_2CH_2 or $CH_2CH(OH)CH_2$; R_3

and R_4 are each Me or Et; R_5 is H, 1-4C alkyl, CH_2Ph or CH_2COOH; and X is Cl, $MeSO_4$, $MeSO_3$ or $\frac{1}{2}$ SO_4) opt. with a compatible vinyl monomer in the presence of water (7-18 wt. %); a catalyst; and a powdered water-soluble alkali(ne earth)- or ammonium salt, at pH 2-9.5 and 70-150°C.

Pref. the polymerisation is conducted in a polyester film container. 3.11.77 as 749295 (5pp047)

NALC D15 49691A/28 =DS 2758-540
Eliminating or preventing biological sludge in cooling systems - using a copolymer of propylene oxide and ethylene oxide
NALCO CHEMICAL CO 21.10.77-US-844167 (06.01.77-US-757407)
*A97 Q78 (A17 A25) (06.09.79) *BE-862-655 C02b-03/06*

Biological mud and slime is removed from water used in industrial cooling systems or is prevented from forming. The water is treated with 0.5-50 ppm of a propylene oxide-ethylene oxide copolymer, obtd. by reacting a polyoxypropylene glycol polymer of mol. wt. 1500-2000 (1750) with 5-30 wt. % ethylene oxide. 23.12.77 as 758540 (3pp068)

DEGS ★ D15 66410B/37 ★DS 2852-475
Automatic detoxification of waste liquor contg. nitrite ions - by oxidn. to nitrate using hydrogen peroxide under slightly acidic conditions
DEUTSCHE GOLD & SILBER 05.12.78-DT-852475
(06.09.79) C02c-05/04

Automatically controllable detoxification of waste liquor contg. nitrite ions is effected by oxidn. to nitrate ions, using H_2O_2 under slightly acidic pH conditions. During oxidn. the H_2O_2 is added continuously or in portions, with continual monitoring of the pH, addn. being stopped when it no longer causes a further redn. in the pH value.

Liquors contg. an unknown quantity of nitrite ions can be completely detoxified, without wasting H_2O_2.

Pref. the liquor is adjusted to pH $\not> 4.0$ before addn. of H_2O_2 or after addn. of (part of) the H_2O_2 needed for complete oxidn. of the nitrite ions present. If the H_2O_2 is added in portions, each addn. amounts to $\geqslant 0.1$ g H_2O_2 (100%)/1 liquor. Addn. in portions is controlled electronically. 5.12.78 as 852475 (4pp016)

HOFF/ ★ D15 66442B/37 ★DT 2808-519
Oxygen dispenser for fish tanks - comprising a mixt. of potassium peroxo:mono:sulphate, sodium perborate and sodium carbonate surrounded by plastic foil
HOFFMANN K 28.02.78-DT-808519
E34 (E31) (06.09.79) A61k-07/48 A61k-33 C02b-07 C02d-01

An oxygen dispenser for the enrichment of oxygen in water comprises a shaped mixt. of potassium peroxomonosulphate, sodium perborate and sodium carbonate opt. together with a binder, the whole mixt. being partially or completely surrounded by a plastic foil. The container may also be of glass.

On contact with water, the dispenser gives off molecular oxygen in the form of fine bubbles. The dispenser can be used to aerate water in fish tanks and ponds, where unlike conventional aeraters, it will enrich the water in the bottom of the tank and round the edges, rather than just the surface and central water. The dispenser can also be used in bath water for cosmetic or medicinal purposes. Oxygen baths promote the circulation of blood and stimulate metabolism. The simultaneously formed sodium borate acts as a water softener. Compared to pressed tablets, the dispenser can be kept longer, also it will not decompose due to air or dampness. 28.2.78 as 808519(3pp1401)

FARH ★ D15 66469B/37 ★DT 2808-961
Purifying waste waters contg. water-soluble metal salt(s) - esp. copper salt, by contact with finely-divided yellow phosphorus
HOECHST AG 02.03.78-DT-808961
M25 (06.09.79) C02c-05/02

Waste waters contaminated with a water-sol. salt or salt mixt. of Cu, Ag, Au, Pt, Pd, Ir, Os, U, Se, Te, As, Sb, or Cd, are purified by contact with finely-divided yellow P. The process can be used in neutral to acid waste waters having a high content of sol. metal-, esp. Cu salts. In alkaline soln., P is oxidised to H_3PO_4. In the presence of a high metal salt concn., the acids released can be used for phosphate mfr., e.g. for fertilisers. The process can also be used for dechlorinating water in the Cu industry, by depositing CuCl on the yellow P.

The process is effective for waste water purification as well as for Cu recovery from conc. solns. 2.3.78 as 808961 (12pp200)

PASE ★ D15 66475B/37 ★DT 2809-068
Sedimention system for sludge separation - having flat elements which can move from side to side to allow removal of deposits
PASSAVANTW MICHELBACHER 02.03.78-DT-809068
J01 (06.09.79) B01d-21

Sedimentation system for suspensions consists of a large number of channels of small height mounted parallel to each other. These have horizontal or inclined surfaces below upon which the sediment collects. These surfaces can be moved from side to side to transport and remove the accumulated sludge.

The surfaces can be moved from the horizontal to the inclined position to achieve the sludge removal. The elements can be interlinked so that the surface of one element serves to move the sludge into the run off passages.

Used for removing solids from suspensions. Gives improved sludge removal and movement. 2.3.78 as 809068 (24pp1053)

VOLK- ★ D15 66541B/37 ★DT 2905-347
Microbiological liq. manure purification to avoid pollution - by aerobic fermentation of undiluted material charged intermittently to mixing tank having sloping floor
VOLKSEIGENES GUT 28.02.78-DL-203888
(06.09.79) C02c-05/10

Undiluted animal refuse-derived liq. manure contg. $\leqslant 7.2$ % solids, at a reduced crude fibre proportion, is charged intermittently into a mixing tank, the floor of which has angle of inclination 5-20°. Air is charged 10-30 cm from the activated sludge tank floor, evenly distributed along the longitudinal edge, through an opening cross-section of 5-10 mm of air outlet orifices and under 5-25 K Pa pressure.

Hourly air quantity is 1-5 x vol. of activated sludge tank. Width : filling level ratio of activated sludge tank is 1 : 0.87 to 1 : 0.97. The activated sludge flocculate has pH 5.6-9.4. The temp. difference between air temp. and activated sludge tank content temp., measured 1 m below activated sludge tank liq. level, is 0-32°C, but is $\geqslant 10$°C at -15°C. Sludge concn. measured after 30 min. settling, is 300-900 ml/1. Dwelling time in activated sludge tank is 6-20 days at min. foam thickness 20-100 cm.

The prod. is then continuously emptied into a clarifying zone. A parameters of air pressure, air quantity, pH, sludge concn., dwelling-time and emptying are programmed automatically, variably and continuously.

Microbiological liq. manure purificn. for further agricultural use takes place in one step, without environmental pollution. The prod. can be used directly and/or stacked for a longer time without further processing. 13.2.79 as 905347 (8pp200)

TSZE ★ D15 66569B/37 ★DT 2907-146
Liquid purification by flotation process - having precleaning by filtration followed by flocculation and injection of finely divided air bubbles
TATABANYAI SZENBANYAK 24.02.78-HU-TA1476
J01 P41 (06.09.79) B03d-01/02

Initially coarse impurities are removed by prefiltration. Then flocculating agents are added to the mixt. to coagulate the impurities. The liq. is then allowed to flow from the top to the base of a column, up which air bubbles are passed.

The air is introduced into the liq. and finely divided, the bubble being 0.05-0.2 mm. The pptd. or flocculated impurities stick to the surface of the bubbles and are removed from the top. The clarified liq. is removed from the base.

Used for purifying liqs. esp. effluent streams. The system allows this to be done by direct injection from air without the use of a compressor. 23.2.79 as 907146 (22pp)

HYDR- ★ D15 66611B/37 ★FR 2410-496

Multi-passage extruded plastic tube e.g for biological filter - has perforations so that extrusion cooling air can reach all passages

HYDRO SYSTEM SRL 05.12.77-IT-030384

A88 J01 Q42 Q67 (03.08.79) B01d-35/02 C02c-01/02 E02b-11 F16l-09/18

The element is of the type which is extruded in tubular form with outer circumferential wall contg. longitudinal partitions which intersect to make longitudinal passages. Holes are made through the outer wall and at least some of the partitions sot that a pressurised fluid surrounding the element would flow into the passages. Holes through the outer wall are pref. on axes radial to the axis of the extrusion. This facilitates entry of nozzles to deliver a cooling fluid, e.g. compressed air or gas. The extrusion is pref. subjected to torsion which orientates the passages helically w.r.t the longitudinal axis of the element.

The biological filter element is used for purificn. of waste water. The element can also be used as packing for mass transfer operations. The holes facilitate uniform air cooling of walls and partitions during extrusion. This overcomes the current problems of uneven cooling which can lead to stresses deforming the thin walls and partitions. Walls and partitions can safely be made even thinner to reduce wt. and save material. 5.12.78 as 034174 (7pp448)

CGRR ★ D15 66619B/37 ★FR 2410-633

Salt water esp. sea water treatment to produce drinking water - by pure water dosed with fraction of irradiated centrifuged salt water

CGR MEV 02.12.77-FR-036333

(03.08.79) C02b-01

Salt water is centrifuged to separate a fraction of density within a predetermined range d and d_2. This fraction is irradiated with a beam of ionising radiation. The irradiated fraction is now mixed in carefully measured proportions, with pure water obtd. by treatment of salt water, e.g. desalinated water produced by distn. of sea water. This mixt. is drinking water of which the slight salinity is pref. controlled by reference to continuous monitoring of the mixt. The proportions of the constituents veing adjusted as required

The centrifuged fraction, made safe by irradiation, provides an additive for pure water which greatly improves its acceptability for drinking. 2.12.77 as 036333 (9pp448)

SOCE- ★ D15 66620B/37 ★FR 2410-634

Plant for thickening and drying sewage sludge - without pressing and without atmos. pollution by bad smells

SOCEA EAU ASSAINI 02.12.77-FR-036429

(03.08.79) C02c-03

The sludge is transfered under pressure into a closed reaction vessel at >160°C (pref. about 180°C). The reactor comprises a vertical, cylindrical pressure vessel with high level inlet for sludge. As the sludge is thickened, it is gently agitated. In the base area of the vessel, thickened sludge is continually displaced radially towards the axis of the vessel, where it is discharged through the base of the vessel.

Agitation is pref. effected by long thin rods suspended vertically through the sludge from a supporting, radial arm rotating slowly about the axis of the vessel. Radial displacement of thickened sludge pref carries it into a coaxial sump below the vessel base. The sump are a centri-fugal rotor which expells the sludge radially or trangentially. The reactor pref. operates at a pressure of about 10 to 12 bars.

Used for thickening and drying sewage sluge ready for disposal, pref. by incineration.

The sludge can be economically brough to a solids content of 30% or more compared with about 15% by existing reactors. The process does not allow unpleasant smells to pollute the atmos. 2.12.77 as 036429 (10pp448)

OKAZ- D15 44238A/25 #GB 1552-155

Electrolytic cell for ionised water - with three/way valve for draining water from anode or cathode chamber

OKAZAKI MFG 11.12.76-DT-656224 (03.12.76-GB-050580)

*J03 +R46 (12.09.79) *DT2656-224 B01k-01 C02b-01/82*

A pot having an electrolysing device is formed by a body split into two chambers by a porous cylindrical partition, each chamber contg. water and having respective positive and negative electrodes, the negative being in the outer chamber; a device to remove water from the outer chamber after an electrolysing operation; a cover for an access opening in the body, and a device including a nozzle for removing water from the negative chamber.

The negative and positive chambers are pref. separated in waterproof manner when the cover is in the opening. A separate water pot for ionised water after an electrolysing operation is not required. 3.12.76 as 050580 (10pp1376).

COMP D15 21891Y/13 =GB 1552-172

Purifying urban effluent after sepn. of coarse particles - by flocculation, flotation, sepn., then irradiation of clarified liquor

SAINT-GOBAIN TECH N 26.09.75-FR-029668

*(12.09.79) *BE-846-606 +C02b-01/20 C02b-03/02*

Effluent contg. organic material is purified by clarifying the effluent by flotation and irradiating to destroy pathogenic organisms. Pref. radiation is UV or a flux of accelerated electrons. Prior to flotation, a flocculant esp. $Al_2(SO_4)_3$, $FeCl_3$, $FeSO_4$ or $Fe_2(SO_4)_3$, or polyacrylamide polyelectrolyte, is added.

Method is cheap and gives better clarification and complete destruction of germs without a high residual pH. 22.9.76 as 039295 (8pp982).

FARB D15 09635Y/06 =GB 1552-325

Determn. of inorganic carbon in water or aq. liq. - by reacting sample with potassium hydrogen sulphate to produce carbon dioxide (BE020277)

BAYER AG 02.08.75-DT-534620

*J04 R16 (12.09.79) *DT2534-620 G01n-31/12*

Inorganic C content of aq. liquids is determined by introducing a sample, together with CO_2-free carrier gas, inco a heated reaction chamber contg. as a solid reagent $KHSO_4$ and/or a mixt. of equal parts of $KHSO_4$ and K_2SO_4. CO_2 and H_2O are formed as prods., and the CO_2 is fed to a CO_2 analyser.

Pref. the reaction chamber temp. is >100°C esp. ~ 140°C. Pref. the $KHSO_4$ and opt. K_2SO_4 is coated on an inert and porous granulate. A measurement accuracy of the order of 2% is achieved. Process is used to treat surface waters e.g. communal waste waters. 2.8.76 as 032062 (5pp936).

NISH- D15 04299Y/03 =GB 1552-338

Rotary drum filter for sludge bearing liqs. - collects solids on the drum interior triangular section filter sieve and continuously removes the sludge accumulations

NISHIHARA ENVIRONME (SHOD/) 04.07.75-JA-082467 (04.07.75-JA-U93495)

*J01 (12.09.79) *DT2629-958 B01d-33/10*

Sludgy liquids are filtered in appts. which has a filter drum rotating about its axis, which is horizontal, and a pipe extending into the drum for downwardly spraying the liquid onto the inner surface of the drum so that the solids are collected and removed from the drum inner surface and liquids pass through the drum into a housing. The drum surface is defined by spaced bars parallel to the drum axis. The pipe is disposed above the drum axis.

The solids are pref. removed using a chute. The cross-section of the filter bars is pref. triangular.

Sewage and night soil can be filtered. 2.7.76 as 027686 (5pp1376).

KAEL/ D15 77605X/42 =GB 1552-353

Biological transformation plant for refuse and sludge - with pre-mixer for treatment chamber

KAELIN J R 29.05.75-CH-006911

*A88 (D16) (12.09.79) *BE-842-271 C05f-07 C05f-09/02*

Humus is produced from refuse and concentrated sludge in a plant which has a vertically extending processing chamber fed at its top from a mixer with the sludge, and a device to pass gas through the chamber to enhance the biological process. The mixer extends into the chamber and is exposed to the heat of gases produced in the chamber so as to assist in a preliminary decomposition in the mixer which is further assisted by introducing O_2 or O_2 mixture in the mixer. An arrangement is provided in the chamber to break up the material.

Spaced blades pref. both distribute the gas and, due to rotation, break up the material. The heat produced is recycled. 26.5.76 as 021806 (8pp1376).

FODA D15 27704B/14 =GB 1552-559
Water dispenser with inverted storage bottle - discharging through porous ceramic capsule contg. dispersed metallic silver
FOREMOST-MCKESSON I 27.06.76-US-726762
*Q39 (12.09.79) *US4145-291 C02b-03/10*

Water dispensing appts. has a water container above a vessel from which the water is actually dispersed, and a basket which provides the fluid communication between the container and vessel. The basket is open at the top towards the container and openings for water flows into the vessel.

A porous ceramic body is disposed in the basket, is immersed in the water in the vessel, and has Ag dispersed throughout its extent. When water is dispersed from the vessel, water from the container flows through in contact with the body surfaces from the container into the vessel. Water is retained in static condition in the body.

Disinfected water can be safely dispensed. 6.4.77 as 014583 (6pp1376).

KERJ D15 53622A/30 =GB 1552-573
Heat-treated activated carbon catalyst - which used for oxidn. of toxic substances eg cyanide in aq. solns.
KERNFORSCHUNGS JULICH 30.03.77-DT-714075
*J01 M11 P35 (12.09.79) *DS2714-075 C02c-05/04*

Oxidn. of harmful material contained in aq. soln. comprises supplying oxygen to the aq soln. while providing as catalyst, activated charcoal which has been heated to > 1000°C in a reducing or inert atmos. or in vacuo, and cooled. Pref. the catalyst is heated for ⩾ 30 minutes at 1100 in vacuo or in the atmos. .

Specifically the harmful material is cyanide in waste water. Process is economic while avoiding rendering the treated soln. highly saline. There is low consumption of additional chemicals. 28.3.78 as 012085 (3pp964).

THAM- ★ D15 66665B/37 ★GB 2015-419
Extruding and pelletising sewage sludge - to bring it into easily usable form
THAMES WATER AUTHOR 19.03.79-GB-009575 (19.12.77-GB-052805)
(12.09.79) B29b-01/02

Sewage sludge is brought into an easily transportable, storable and usable form by extruding it and cutting the issuing strands into pellets. The pellets are then dried, pref. until they have > 80 wt.% of dry solids.

Drying may be effected by a hot fluid bed and the drier may be followed by a cooler. Fines may be separated and recycled to the extruder via a cyclone separator and a certain fraction of the pellets may alsobe recycled. 19.3.79 as 009575 (5pp525).

BELO/ ★ D15 B/37 ★IT 1031-253
Liquid biological purification appts. - with gas injection system
BELOTTI F 29.01.75-IT-019708
(30.04.79) C02c

NIRA ★ D15 66865B/37 ★J5 4097-577
Converting H-type ion exchange resin to magnesium type - by treating with aq. soln. of magnesium cpd. in presence of ammonia
UNITIKA KK 19.01.78-JA-005057
A91 J01 (01.08.79) B01j-01/08

A chelating ion exchange resin having a hydrogen atom at the end of its functional gp. is directly converted to a Mg-substd. resin to prevent shrinkage of the chelating ion exchange resin during adsorption of heavy metal ions, without converting previously the H-type ion exchange resin to the Na-type ion exchange resin, by treating it with an a . soln. of a Mg cpd., e.g. $MgCl_2$, $Mg(OH)_2$, $MgSO_4$, $Mg(NO_3)_2$, Mg carbonate or Mg hydrogen carbonate, at a pH of 9-12 in the presence of ammonia.

In an example, 60 ml of a H-type chelating ion exchang resin, Unicellec UR-30 (RTM) charged into a glass-made column having an inner dia. of 20 mm, after which an am -oniacal MgCl soln. (pH=12) comprising 7 grams of $MgCl_2$ 9 grams of 28%-ammonia water and 100 ml of H_2O is passed upwardly therethrough under circulation for 2 hrs. at SV of 5(1/hr), followed by passing downwardly therethrou 500 ml of H_2O at SV of 10 (1/hr) to give a Mg-type chelating ion exchange resin. 19.1.78 as 005057(4pp34)

NIRA ★ D15 66866B/37 ★J5 4097-57
Converting H-type chelating ion exchange resin to calcium - b treating with a calcium cpd. in the presence of ammonia
UNITIKA KK 19.01.78-JA-005058
A91 J01 (01.08.79) B01j-01/08

A chelating ion exchange resin having hydrogen atom at th end of its functional gp., is directly converted almost in 100% yield to a Ca-substd. resin to prevent shrinkage of the chelating ion exchange resin ad sorption of heavy meta ions, without converting previously the H-type ion exchange resin to the Na-type ion exchange resin, by treating it with an aq. soln. of a Ca cpd., e.g. $CaCl_2$, $Ca(OH)_2$, CaS $_4$, $Ca(NO_3)_2$, $CaCO_3$ and $Ca(HCO_2)_2$ etc. at a pH of 9-12 in the presence of ammonia.

In an example, 60 ml. of a H-type chelating ion exchange resin sold from NI RA under the commerical name of Unicellec UR-30 is charged into a glass-made column having the inner dia. of 2 mm, after which an ammoniacal $CaCl_2$ soln. (pH=12) comprising 8 g of $CaCl_2$, 9 g of 28%-ammonia water and 100 ml of H_2O is passed upwardly therethrough under circulation for 2 hrs. at SV of 5(1/hr), followed by passing downwardly therethrough 500 ml of H_2O a SV of 10 (1/hr) to give a Ca-type chelating ion exchange resin. 19.1.78 as 005058(4pp34)

JAOR ★ D15 66867B/37 ★J5 4097-579
Sepn. of cationic exchange resin from exchange resin mixt. - by passing sodium hydroxide soln. upwards through resin mixt. to carry anionic resin up column
JAPAN ORGANO KK 20.01.78-JA-004391
J01 (01.08.79) B01j-01/09 C02b-01/76

A cation exchange resin is sepd. from a cation- and anion-exchange resin mixt. in out-tower regeneration of mixed bed-type ion exchange appts. The improvement comprises passing upwardly 2-8 wt.%-NaOH soln. through the mixed cation- and anion-exchange layer at the LV of 0.5-4 m/hr from the under part thereof to form a laminated layer, the upper part of which is an anion exchange resin layer and the under part is a cation exchange resin layer, esp., passing upwardly a NaOH soln., the density of which is between that of both of the ion exchange resins, at a low flowing rate, to rise only the upper anion exchange resin so as to form the NaOH soln. layer having the intermediate density between the rised anion exchange resin and the cation exchange resin, and discharging separately the rised anion exchange resin and the cation exchange resin to the outside.

Both ion exchange resins can be regenerated separately, so the ion exchange resins are not contaminated with unregenerated Na-bearing cation exchange resin or Cl-bearing anion exchange resin. 20.1.78 as 004391(6pp34)

JAOR ★ D15 66868B/37 ★J5 4097-580
Regenerating acid cation exchange resin or basic anion exchange resin - in a tower using upward flowing regeneration agent and requiring fewer control valves
JAPAN ORGANO KK 20.01.78-JA-004392
J01 (01.08.79) B01j-01/09 C02b-01/76

In the regeneration of strongly acidic cation exchange resin or strongly basic anion exchange resin with an upward stream of regenerating agent, the improvement comprises passing an upward stream (I) of regenerating agent, the flow rate of which is such that the ion exchange resin layer is swelled, and another upward stream (II) of regenerating agent, the flow rate of which is slightly lower than that of (I), through the ion exchange resin layer, alternatively and repeatedly within a short period.

The number of valves required is considerably reduced and thus the control mechanism for automated control is simplified. The structure of the ion exchange resin tower is very simple and back-washing is carried-out simultaneously with the ion exchange resin layer being regenerated. 20.1.78 as 004392(10pp34)

HITA ★ D15 66944B/37 ★J5 4098-042
Hydrofluoric acid removal and recovery from waste water - by absorption with activated carbon which is treated with hot water or alkali soln. to recover the acid or sodium or calcium fluoride
HITACHI KK 19.01.78-JA-003700
E36 (02.08.79) C01b-07/22 C02c-05/02

Waste water is adjusted to pH ⩽ 2 and passed through an activated carbon-packed tower or column; and the hydrofluoric acid adsorbed activated carbon is treated with hot water or an alkaline soln. contg. caustic soda, slaked lime etc. at 50°C to recover the hydrofluoric acid or sodium or calcium fluoride.

The method not only recovers hydrofluoric acid from waste water contg. other acids, e.g. nitric acid, etc., but also of greatly reducing the amt. of slaked lime used, as well as reducing the amt. of sludge generated. The method is used for treating waste water from e.g. plating factories, etching of semiconductors, etc. 19.1.78 as 003700(3pp117)

SEKI ★ D15 66945B/37 ★J5 4098-043
Treating waste water contg. starchy substances - by mixing with water soluble high molecular polysaccharide and opt. with an alum etc.
SEKISUI CHEMI IND KK 17.01.78-JA-003995
A91 C04 E33 (C03 D13) (02.08.79) B01d-21/ C02c-05/02*

Waste water, e.g. those discharged from starch-mfg. factories, fermentation factories, food-processing factories, etc., is mixed with a water-sol. high molecular polysaccharide, e.g., xanthan gum, zanflo, etc., which are the fermentation prods. of microorganisms, together with, as needed, an alum, e.g. K alum, ammonium alum, etc., and additive assistants, e.g., powdered shellfish fossil, slaked lime, $CaCl_2$ and locust bean gum.

This method coagulates and sedimenting starchy substances contg. flocs present in waste water, providing very clear treated water of a high transparency. The sepd. flocs can be used in feed or fertiliser. 17.1.78 as 003995 4pp117)

SEKI ★ D15 66946B/37 ★J5 4098-044
Treating waste water contg. starch substances - using glycol ester of alginic acid and coagulation assistant, with by/production of feed or fertiliser
SEKISUI CHEMI IND KK 17.01.78-JA-003996
A91 C04 (A11 C03 D13) (02.08.79) B01d-21/ C02c-05/02*

Waste water contg. starch substances, e.g. those discharged from starch-mfg. factories, fermentation factories, food-processing factories, etc., is treated by mixing the water with a glycol ester of alginic acid, e.g., ethylene glycol alginate, propylene glycol alginate or tri-, tetra-, penta, hexta, hepta-, or octa-methylene glycol alginate, etc., together with coagulant assistants, e.g., powdered shellfish fossil, slaked lime, and calcium chloride.

This method is capable of very effectively coagulating and removing starchy substances-contg. flocs present in water easily and rapidly to give very clear treated water. The sepd. flocs can be used safely as feed or fertiliser. The pref. amt. of the glycol esters of alginic acid is 0.25-1.0 wt.% on the basis of the total wt. of floating substances present in the waste water. 17.1.78 as 003996(4pp117)

MITK ★ D15 66947B/37 ★J5 4098-046
Biologically purifying waste water - includes adding alkali to promote digestion reaction before denitrification
MITSUI TOATSU CHEM INC 18.01.78-JA-003326
(02.08.79) C02c-01/02

Method of biologically purifying waste water contg. ammonia and urea in which the pH waste water in a digestion tank is regulated to 6 to 9 by using a hydroxide, carbonate, or bicarbonate of an alkaline earth metal to cause a digestion reaction to take place by means of a digesting bacteria. Then the water is introduced into a tank where denitrification is carried out in the presence of a reducing agent by means of denitrifying bacteria.

At the same time to convert alkaline earth metal present in waste water into carbonate and/or bicarbonate carbon dioxide gas is introduced from the bottom of the tank. Finally carbonate and/or bicarbonate of the alkaline earth metal is sepd. with activated sludge by sedimentation in a sedimentation tank and then recycled to the digestion tank.

The amt. of neutraliser used is greatly reduced. A constant denitrification efficiency for ammonia and urea can be kept even in case where the quality of the water fluctuates greatly. 18.1.78 as 003326(4pp117)

SUZU/ ★ D15 66964B/37 ★J5 4098-320
Removal of slime from pipe, etc. - using aq. hydrogen peroxide soln. at alkaline pH
SUZUKI Y 21.01.78-JA-005610
C03 E36 Q78 (03.08.79) A01n-09 C02b-05/02 F28g-09

Method comprises introducing aq. H_2O_2 soln. of pH $\geqslant 7$ in the pipe or/and the appts., in which slime, etc. are formed.

Typically aq. 1-2% H_2O_2 soln. is adjusted to pH 7.5-10.0 with alkali e.g. NaOH, Na_2CO_3, NH_3, $NaHCO_3$.

Under alkaline conditions the generation of nascent oxygen from aq. H_2O_2 soln. is greatly accelerated. More nascent oxygen can be generated from the H_2O_2 having lower concn. and slime, etc. can be easily removed inexpensively in a shorter time. It is considered that the alkali not only promotes the generation of nascent oxygen but also is effective for oxfoliation and dissolution of slime, etc. 29.1.78 as 005610(5pp5)

MITQ ★ D15 67076B/37 ★J5 4099-078
Sludge dewatering appts. - in which cracks are formed on sludge surface to improve dewatering tank cleaning frequency
MITSUBISHI ELECTRIC CORP 23.01.78-JA-006330
(04.08.79) B01d-29/04 C02c-03

Water on a sludge in a dewatering tank is introduced into a vaccum chamber by a vacuum pump. When the water on the sludge is removed, a valve is opened to supply water by spraying with nozzles onto the surface of the sludge to form concave grooves in it at a regular distribution.

When the air on the sludge is introduced in the vacuum chamber by the vacuum pump, cracks are generated in the grooves, so that the air is equally passed through the whole sludge to de water the whole sludge equally and effectively. A great number of cracks are formed on the sludge surface to improve dewatering effects and to decrease cleaning of the dewatering tank. 23.1.78 as 006330(4pp35)

ASAH ★ D15 67079B/37 ★J5 4099-082
Sepn. of oil and water from mixt. - by selective permeation of water only through porous resin membrane
ASAHI CHEMICAL IND KK 10.01.78-JA-000864
A88 J01 (04.08.79) B01d-13

Oil and water are sepd. from a mixt. (I) by selective permeation of water only through porous membrane (II), having pores of 0.005-5 u dia. and being made from a resin (III) of critical surface tension $\geqslant$ 35 dyn/cm. The mixt. is composed of X pts. wt. of oil and Y pts. wt. of cpd. other than oil, where Z mol/l of surfactant is contained in Y and $Z \geqslant 0$, when $0.02 \leqq A < 0.5$ and $Z \geqslant 1.78 \times 10^{-3}A - 8.9 \times 10^{-4}$, when $0.5 \leqq A \leqq 0.8$. $A = X/(X+Y)$.

Water and oil-immiscible solvent can be sepd. from oil perfectly.

Polyvinyl alcohol, polyvinyl chloride, polyvinylidene chloride, polyethyl terephthalate, nylon-6, nylon-66, etc. are used for the resin. The number of pores in (II) are pref. 10^7 - 10^8/cm. (I) is pref. an O/W type emulsion and the mean dia. of oil droplets in (I) is 0.1-50 μm. 10.1.78 as 000864(7pp42)

DENG- ★ D15 67080B/37 ★J5 4099-084
Pretreatment of waste water prior to reverse osmosis - by removing aluminium, fluoride and calcium ions by adding alkali cpd. to form ppte., used to treat water from thermoelectric power plant
DENGEN KAIHATSU KK (SUMH) 23.01.78-JA-006023
(04.08.79) B01d-13 C02c-05/02

Method comprising (1) sepn. of precipitate contg. Al^{+3} and/or F^- formed by the addn. of alkali cpds. to the water until pH reaches 7-9 and (2) sepn. of precipitate contg. Ca^{+2} formed by the addn. of alkali cpds. and carbonate to (I) until pH reaches 9-11.

The treatment is applied to reverse osmosis treatment of water, exhausted from thermoelectric power plant. 23.1.78 as 006023 (2pp42)

TOKA- ★ D15 67140B/37 ★ J5 4099-343
Oxidn. of sodium sulphide-contg. alkaline soln. - e.g. discharged from recovery system of kraft pulp mill, by contacting with oxygen-contg. gas in presence of chelating forming complex
TOKAI PULP KK (JAPC) 21.01.78-JA-004808
E34 F09 (06.08.79) B01d-53/34 C02c-05/04

Na sulphide-contg. alkaline soln. is contacted with a molecular oxygen-contg. gas, e.g., air, etc., in the presence of 0.0001-0.01 mol/l of an anthraquinone sulphonate, e.g., the Na salts of 2.7- or 2.6-anthraquinone disulphonic acid and of beta-anthraquinone monosulphonic acid, and 0.1-100 ppm of a metal cpd. capable of forming chelate cpd. with the anthraquinone sulphonates, e.g., the sulphates, nitrates, oxy acid salts, and complexes of Fe, Mn, Ni, Cr, Co, V, and Cu at 30-200°C and pH $\geqslant$ 10.

The method is capable of effectively and rapidly oxidising sodium sulphide present in an alkaline soln. into a stable, harmless cpd., Na (thio)sulphate on an economic scale by using smaller amts. of oxygen and any type of operation systems. 21.1.78 as 004808(5pp117)

JAGA ★ D15 67141B/37 ★ J5 4099-344
Treating waste water, e.g. sewage or industrial effluent - by ozonisation followed by treatment with activated carbon
JGC CORP 20.01.78-JA-004853
(06.08.79) C02c-05

Waste water is subjected to oxidn. treatment in an ozone treatment appts. The ozonised waste water is introduced into an activated carbon adsorber to which ozone discharged from the ozonisation tank is supplied.

The deactivated adsorption capability of activated carbon due to adsorption of organic material is revitalised by ozone contg. pure oxygen is supplied to the activated carbon adsorber and thus aerobic microorganisms kept oxidise the organics adsorbed in the activated C. 20.1.78 as 004853 (3pp117)

TOKE ★ D15 67142B/37 ★ J5 4099-345
Reducing ozone requirement for decolourising waste sewage water - by first oxidising nitrite cpds. to nitrate cpds. with hypochlorite, hydrogen peroxide or chlorine
TOKYO SHIBAURA ELEC LTD 23.01.78-JA-005285
(06.08.79) C02c-01/40 C02c-05/04

The ozone-treatment of treated waste sewage water to effect deoolouration is preceded by an oxidn. process in which NO_2^- ion present in the treated water is oxidised into NO_3^- ion by injecting hypochlorite, hydrogen peroxide, or chlorine gas.

The amt. of ozone required to decolourise the water is thereby decreased, allowing costs of the overall process to be reduced. 23.1.78 as 005285(4pp117)

ASAH- ★ D15 67143B/37 ★ J5 4099-346
Treatment of rice washing waste water from breweries - by adding acid to remove starch, sepg. solids by sedimentation, activated sludge treatment, neutralising, etc.
ASAHI CARBON KK 20.01.78-JA-005637
(D16) (06.08.79) C02c-01/06 C02c-05/10 C12g-03/02

In a treatment for purifying rice-washing waste water discharged from brewery factory by using activated sludge, pH of waste water is first regulated to 3-5 by the addn. of an acid, e.g. HCL, H_2SO_4, etc., to coagulate and ppte. starchy substance particles suspended. The sediments a are sepd. after standing for 1-2 hrs in a sedimentation basin, the supernatant liquor is subjected, after neutralisation, to an acitvated sludge treatment and also the sepd. sludge contg. starchy substance particles is neutralised with an alkali aq. soln. and mixed with an aq. soln. of urea or $(NH_4)_3SO_4$ and acid potassium phosphate. The sludge so treated is introduced into an anaerobic fermentation tank to further decompose it by the addn. of an alkaline agent, and the treated water from the anaerobic fermentat-ion tank is passed into the aeration tank during the period March to October for keeping the activity of sludge bacteria.

The capacity of activated sludge aeration tank is reduced to 1/3, and also the treatment facilities can be worked uniformly all the year. 20.1.78 as 005637(6pp117)

SUID- ★ D15 67144B/37 ★ J5 4099-349
Removing arsenic from water - using filter sand which has been treated with ferric chloride soln. and mixed with soda ash and then heat-treating
SUIDDKIKO KK 26.12.77-JA-155659
E36 (06.08.79) B01d-15 C02b-01/14 C02c-05/02

The removal of arsenic from water, e.g. deep well water, copper mining water, etc. by filtration is described. Filter sand particles, for example, are soaked in a 42 Baume ° ferric chloride soln. The filter sand ferric chloride soln. is then mixed with powdered soda ash to pH 8 to form ferric hydroxide on the surfaces of the filter sand particles. The filter sand particles are sepd. and then heat treated at 300-400°C for one hr., and then packed into an approx. 125 cm dia. filter tank to a height of 100 cm. Through this layer the water contg. As is passed to remove arsenic by adsorption using an iron catalyst film formed on the filter sand particles. The filter sand particles are regenerated using an alkaline soln.

This method effectively removes the aresenic using smaller treatment facilities. 26.12.77 as 155659(2pp117)

KUBI ★ D15 67145B/37 ★ J5 4099-352
Denitrification of nitrogen cpds.-contg. liquor e.g. sewage - by mixing with activated sludge, then passing treated liquor to oxygen-rich and oxygen-lean zones to effect removal of nitrogen cpds.
KUBOTA KK 20.01.78-JA-005516
(06.08.79) C02c-01/06

The liquor is mixed with activated sludge to form a treating liquor, and then the treating liquor is circulated in a vertical long circulating flow path consisting of an oxygen-rich first zone, or an ascending flow path, and an oxygen-lean second zone, or a descending flow path, where oxygen is supplied until the supersaturation of oxygen is reached at more than atmospheric pressure from the lower part of the ascending flow path and also bubbles are removed at the upper part of the circulating flow path.

The method is capable of effectively and economically removing nitrogenous cpds. etc. from liquor, e.g. various waste waters contg. nitrogenous cpds., with greater treating capacity and also with smaller floor-spaced treatment facility. 20.1.78 as 005516(2pp117)

HARA/ ★ D15 67197B/37 ★ J5 4099-776
Continuous sludge dewatering appts. - includes layer of sawdust above suction plate, sludge being accumulated on the sawdust and then discharged
HARA M 23.01.78-JA-006603
(06.08.79) B01d-29/04 C02c-03

The dewatering section comprises a vacuum tank, a punched plate, an endless filter cloth and a dewatering tank. A border wall is mounted in the dewatering tank to divide the tank into double inner and outer tanks. A sawdust layer is pre-accumulated in the inside of the border wall and sludge is supplied through an inlet into the inner tank. The filter cloth and the punched plate are contacted with the bottom of the dewatering tank to hold rubber seal members on the lower edges thereof.

A sludge layer is gradually accumulated on the sawdust layer by sucking and filtering the sludge water. The sludge water is leaked through between the seal member and the cloth to form a sludge layer in the lower end of the inner periphery of the border wall so as to compensate the sealing function. The sludge dewatered in the dewatering section is discharged from a shoot.

The dewatering tank has a double construction to improve the sealing ability because it is sealed with the water in the outer tank if the rubber seal is deteriorated. 23.1.78 as 006603(6pp35)

EBAI ★ D15 67202B/37 ★ J5 4099-783
Regenerating permeable membrane for protein sepn. waste - by immersing in fresh water in static or fluidised condition
EBARA INFILCO KK 24.01.78-JA-006466
J01 (D17) (06.08.79) B01d-13

Waste soln. exhausted in the seon. of proteins is permeated through a permeable membrane to recover useful components. Membrane is then regenerated by immersing in fresh-water in a static or fluidised condition for $\geq$ 7 hrs. to regenerate it. Contact of the membrane with fresh-water is opt. carried out after washing it with alkali, and the fresh-water opt. contains a bactericide fungicide or a non-freezing agent.

In an example, a decanta sepd. soln. by-produced in prodn. of starch was passed through a reversedly permeable membrane under a pressure of 50 kgf/cm^2 at 25°C to recover useful components. The used membrane was contacted with fresh-water under a pressure of 0.2 kgf/cm^2 at velocity 20 cm/s of the surface of the membrane, and regenerated. The permeable ability of the membrane was regenerated to $\geq$75%. 24.1.78 as 006466(3pp51)

SHOX ★ D15 67229B/37 ★J5 4100-141

Treating waste water from electric insulating paint - by passing water through inorganic solid particle layer and passing filtrate through an ion exchange resin

SHOWA ELEC WIRE KK 25.01.78-JA-006887

A35 (07.08.79) C02c-05/02

The waste water is passed through an inorganic solid particle layer of a grain size of 0.01 to 2 mm e.g., sand particles, the resins absorbed in the surfaces of the inorganic solid particles are completely burned off by heating, and then the filtrate is, opt. after adjustment of pH to a desired walue, passed through an ion exchange resin for discharge. The adsorption-filtration operation can be repeated several times to increase efficiency. Process has high removal capability for paint resins. 25.1.78 as 006887 (3pp117)

KURS ★ D15 67230B/37 ★J5 4100-142

Treating waste water from dyeing process - by adding inorganic metal salt, adjusting pH to less than 9, then adding modified polyvinyl alcohol

KURARAY KK 23.01.78-JA-006994

A91 E37 (A14) (07.08.79) B01d-21/ C02c-05/02*

A method of treating waste water contg. various dyes and dyeing assistants comprises adding an inorganic metal salt, e.g., the chlorides, sulphates, nitrates, etc., of iron, aluminium, calcium, magnesium, etc., to waste water in a porportion of 10-200% on the basis of the COD content, then adjusting the pH to $\leq$9.0 by addn. of caustic soda, calcium hydroxide, etc. Finally 0.5-200 ppm of a modified polyvinyl alcohol obtd. from the reaction of a cyclic acid anhydride, e.g., phthalic anhydride, maleic anhydride, succinic anhydride, etc., with PVA in the presence of a monovalent metal hydroxide, an alkoxide, a salt, a tert. amine, etc. is added.

This method is capable of effectively coagulating and removing COD components present in dyeing waste water of a wide pH range from 5.0 to 9.0 and having $\geq$5000 ppm of COD components, with a COD removal ratio of 70-90%. 23.1.78 as 006994(3pp117)

KUBI D15 78451X/42 =J7 9023-749

Waste water treatment with ozone - using a series of ozone oxidn. vessels

KUBOTA KK 22.11.74-JA-135358

*E36 (16.08.79) *J51099-848 C02c-05/04*

The treatment of an org. waste water by admitting ozone to remove B.O.D., C.O.D., suspended solids and other polluting matters and to carry-out its decolourisation is improved by providing a series of ozone-oxidn. vessels between each of the treating installations so that a resultant obtd. by ozone oxidn. in each of the vessels is removed from the waste water at each stage. Treatment is more effective than conventional treatments using a single oxidn. vessel. 22.11.74 as 135358 C02c-5/04 (16.8.79) KUBOTA KK (3pp)(J51099848)

AGEN ★ D15 67290B/37 ★J7 9023-908

Brine ice cleaning and melting appts. - includes chamber with bottom inlet for thickened brine carrying ice flakes, blade scraper and gas- and liq. inlets

AGENCY OF IND SCI TECH 19.05.69-JA-038017

(17.08.79) B01d-09 C02b-01/12

System for producing pure water by cooling a brine, sufficiently to cause the water to separate in ice flakes, collecting and cleaning the ice flakes by spray water, and melting the ice, which includes an improved ice cleaning and melting appts. (I).

(I) comprises (a) an ice collecting and cleaning chamber including a bottom inlet for the thickened brine carrying ice flakes, (b) a blade scraper located at the top of the chamber for scraping the floating ice flakes into a melting chamber, (c) a spray nozzle for injecting spray of water to the floating ice flakes; (d) a nozzle tube disposed near the bottom of the melting chamber for introducing a gasified cooling medium from the previous refrigeration stage into the ice flake slurry so that the ice flakes are molten and the cooling medium is liquefied by the heat exchange with the melting ice; and (e) a sepg. chamber where the liq. mixt. from the melting chamber is sepd. into pure water and liquefied cooling medium by the difference in specific gravity. 19.5.69 as 038017 C02b-1/12;B01d-9/00 (17.8.79) AGENCY OF IND SCI TECH (6pp47)

GENE D15 29115U/21 =J7 9024-216

Ozone-treatment of industrial sewage - for silicone polymer plants

GENERAL ELECTRIC CO 03.11.71-US-195390

*A26 (20.08.79) *DT2253-672 B01j-10 C02b-01/38 C02c-05/04*

Efficient low-cost treatment of e.g. a silicone polymer plant sewage is obtd. by a system consisting of two treatment columns, the second smaller than, but having higher effective contact per unit volume between sewage liq. and gas than the first. The raw sewage is split into two unequal parts and fed into the two columns.

Ozone-contg. gas from an oxone generator is fed into the system and the gases yielded are dried and returned to the generator which produces further gas with constant ozone content. 2.11.72 as 109580 (clg.3.11.71-US-195390) C02c-5/04, B01j-10/00, C02b-1/38 (20.8.79) GENERAL ELECTRIC CO (9pp)(J48053557)

DAIK ★ D15 67312B/37 ★J7 9024-218

Cyanide-contg. (waste) water treatment - using chlorine, hypochlorous acid or calcium hypochlorite in closed vessel

DAIKIN PLANT KK (KAMI-) 05.07.74-JA-077632

E36 (20.08.79) C02c-05/04

Cyanide content of (waste) water is lowered by treatment in with Cl_2, HClO or $Ca(ClO)_2$ etc. in a closed vessel under stirring 60 to 90°C and a pH of 2.5 to 5. 5.7.74 as 077632 C02c-5/04 (20.8.79) DAIKIN PLANT KK; KAMI-GUMI KK (4pp34)(J51007753)

MOCH= ★ D15 67378B/37 ★SU -636-007

Joining cellulose acetate filter element edges - involves impregnating with glycerine and heating, used for water desalination

MOSC CHEM TECHN 11.05.76-SU-377630

A88 J01 (A11) (10.12.78) B01d-13/04

Filter elements for diaphragm filters using cellulose acetate semipermeable membranes, e.g. for desalination, concentrating solns. or purifying effluents, are made by impregnating the membranes with glycerine and joining their edges by heating to 150-180°C. The method enhances operational reliability.

Voronkova L.I., Zhilin Yu.N., Nikolskii B.F. et al.
Bul. 45/5.12.78 11.5.76 as 377630 (2pp1358)

MOMY= ★ D15 67382B/37 ★SU -636-011

Automatic self-cleaning filter for water and low viscous liquids - has mesh drum rotated by flow in spiral housing to pass reverse flow cleaning port

MOSC HYDRO-AMELIOR 09.02.77-SU-451163

J01 (10.12.78) B01d-25/36

The filter comprises a spiral housing holding a freely rotatable mesh drum, feed and wash liquid delivery lines, and connections for discharge of filtrate and deposit. Hydraulic characteristics are improved by fitting the drum with curvilinear blades between two discs: one is imperforate and the other has a central filtrate offtake connection.

The imperforate disc is pref. fitted with a conical deflector mounted on its inner side. Incoming liquid is swirled by the housing and enters the drum to exit through the disc connection while rotating the drum by impinging on the blades so that the drum is continuously washed by passing in front of a reverse wash flow port, this providing a flow no more than 1% of total throughflow.

Yushmanov O. L., Beglyarova E.S., Bul. 45/5.12.78
9.2.77 as 451163 (3pp1358)

AKPE= ★ D15 67446B/37 ★SU -636-190

Compsn. for water treatment in circulating water supply system - contains formic, acetic and propionic acids, to reduce cost of process

AS KAZA PETRO CHEM 01.08.76-SU-391203
E17 (10.12.78) C02b-01/18

The cost of decreasing the hardness of water in a circulating water supply system can be reduced and the range of acid reagents used can be widened by treating the water with a mixt. of formic, acetic and propionic acids in the ratio (in wt.%) 1-25 : 1-15 : 1-10. The mixt. is added at a rate of 0.4-0.5 g/l. The compsn. prevents pptn. of carbonates and sulphates of calcium, and it is an improvement on the use of acrylic and thioglycollic acids with ammonium persulphate, since the reagents cost much less. The new reagents are also less toxic.

Kalacheva V.G., Kim G.E. and Sultanova L.Z., Bul. 45/
5.12.78 1.8.76 as 391203 (2pp815)

GOGO= ★ D15 67447B/37 ★SU -636-191

Device for flotation cleaning of aq. effluent - has Archimedes spiral scraper with elastic lining between it and pacifier grille to improve petroleum prod. removal

GORKI GORKNEFTEKHIM 07.07.76-SU-380777
H05 P41 (10.12.78) B03d-01/14 C02c-01/26

The device comprises a cylindrical container, foam-removing scraper, pacifying grille, foam collection tray, dirty water inlet and clean water outlet.

To prevent the foam breaking down, to remove it more fully and to reduce the time it stays in the mechanism, the scraper is in the form of an Archimedes spiral and has an elastic lining between grille and scraper. The grille has cell size increasing towards the axis. The tray wall in contact with the scraper is inclined. There may be a foam collector trough across the dia.

The device is used in petroleum processing and petrochemical inds. to removal of colloidal prods. and suspended petroleum prods. from waste water.

Makarevich L.D., Zeldin V.E., Sokolov V.P. Bul 45/
5.12.78 7.7.76 as 380777 (3pp18)

HEAT= ★ D15 67449B/37 ★SU -636-193

Separator with axial gas inlet in rotating drum - has aq. effluent inlet and light impurity outlet pipeline with bent end, used in petroleum, oil, fats etc. processing

HEAT MASS TRANF INS (MIME=) 09.03.77-SU-460903
J01 P41 (10.12.78) B03d-01/14 C02c-05

The separator comprises a body in the form of a drum able to rotate, along the axis of which is the gas inlet, bent in a direction opposite to the rotation of the drum. The end of the inlet has an aperture at the side and is plugged with an oversize disc.

For versatility and efficiency of cleaning light impurities from effluent, the separator has an effluent inlet set co-axial with the outside of the gas inlet and a pipeline for removal of light impurities, the top end of which is bent opposite to the rotation of the drum. The pipeline can move radially.

Fedorov B.I., Timchenko E.A., Kryukov A.F., Bul. 45/
5.12.78 9.3.77 as 460903 (3pp18)

FOOD= ★ D15 67507B/37 ★SU -636-254

Prodn. of water for brewing - by treatment with ion exchange resin in presence of specific magnetic fields

FOOD IND EXTRAMURAL 02.08.76-SU-391803
(D16) (10.12.78) C02b-01/40 C12c-01

Water is prepd. for brewing by treating with an ion exchange resin in the presence of a uniform magnetic field of intensity 6.60-8.80 a/m., current strength 1.6-2.0 a. and voltage 18.0-24.0 V for H-cation form resins, and intensity 7.90-9.97 a/m current strenth 1.6-2.0 a and voltage 24.0-30.0 V for Ca-cation form resins.

The method is intensive and produces a good quality brewing water.

Eliseev M.N., Tikhomirov V.G., Fertman G.I. Bul.
45/5.12.78 2.8.76 as 391803 (2pp314)

LEEN= ★ D15 67646B/37 ★SU -637-12

Electric cleaner for chemical industry and waste - using curre conducting flexible rods on troughs discharging particles fro porous coated, disc shaped anodes

LENGD ENG CON INST 12.07.77-SU-507084
J01 P41 (20.12.78) B01d-35 B03c-05/02

The cleaner, used in chemical ind. for purificn. of aq. waste, contg. suspended solids comprises a casing, disc anodes on a shaft, segmental cathodes, and troughs for removal of the deposit.

To increase productivity and service life of the anodes current-conducting rods of elastic material, fixed to the casing, contact the troughs and the anodes, which latter are coated with porous material.

Pozdnyakov L.N., Smirnov O.V., Bul. 46/15.12.78
12.7.77 as 507084 (3pp132)

KAZM= ★ D15 67741B/37 ★SU -637-333

Microbiological removal of metal cyano complexes from aq. waste - using mixed microorganisms which digest nitrogen in presence of sugar to give water complying with health standards

KAZMEKHANOBR RES 12.04.76-SU-352480
E36 M25 (D16) (20.12.78) C02b-01 C22b-03

Cyano complexes of metals can be removed selectively from wastes of metallurgical processes by treatment at pH 7-8.5 with mixed cultures of the heterotrophic microorganisms Bacterium liquefaciens, Bacterium altum, Bacillus brevis, and Pseudomonas fluorescens, which break down cyanides by absorbing nitrogen. A ppte. of metal hydroxides is obtd. which is readily sepd., by filtration or settling, in contrast to the previous methods. The degree of purificn. from metals and cyanides obtd. is 99.7%.

Ilyaletdinov A.N., Yakubovskii S.E., Bespamyatnov O.K.
et al. Bul. 46/15.12.78 12.4.76 as 352480 (2pp815)

MYAG/ ★ D15 67742B/37 ★SU -637-334

Removing hexavalent chromium cpds. from aq. waste - by sorption on crosslinked ion exchange fibre of acrylonitrile and methyl-vinyl pyridine copolymer with regeneration by dilute alkali

MYAGKAYA T M 25.05.77-SU-498111
A91 E31 (A14) (20.12.78) C01g-37 C05c-05/08

Waste contg. Cr (VI) salts is passed through a layer of ion-exchange sorbent. The degree of purificn. can be increased, and the time taken for the process of regeneration of the sorbent reduced, by using a crosslinked fibrous ion-exchange compsn. as the sorbent. The latter is based on a copolymer of acrylonitrile and 2-methyl-5-vinylpyridine. The regeneration can then be carried out using a 1.8-2.2% soln. of sodium hydroxide or ammonia. The previous granular ionite had a filtration rate of only 2 m/hr., there was some loss of resin on regeneration owing to the need to use 5-10% sodium hydroxide soln., and the level of regeneration was only 80-88%

Myagkaya T.M., Doskina E.P., Morozov A.P. et al.
Bul. 46/15.12.78 25.5.77 as 498111 (2pp815)

WATE= ★ D15 67743B/37 ★SU -637-335

Automatic aq. effluent cleaning sludge densimeter - using anti-interference proportional summation block before recording block for accuracy

WATER SUPPLY ENGGS 04.08.77-SU-518371
R16 (20.12.78) C02c-05/10 G01n-09 G01n-29

The densimeter comprises a generating block linked to a piezoelectric converter block connected to 1st and 2nd frequency channel amplifiers, and a recording block.

To increase metering accuracy by reducing interference effect, it also incorporates a proportional summation block between the amplifiers and the recording block.

Shturmin A.B., Smirnov D.N., Filipovich P.N. Bul. 46/
15.12.78 4.8.77 as 518371 (2pp132)

PURA ★ D15 67782B/37 ★SW 7712-485

Pptn. of dissolved impurities from water - by adding pptn agent and passing through labyrinth of channels before separation of ppte

PURAC AB 04.11.77-SW-012485
(11.06.79) B01d-21/08 C02b-01/20

BRTO ★ D15 B/37 ★SW 7713-369
Dissolving sparingly soluble gas in bulk liq. - by injecting gas into pressurised turbulent stream of same liq. which flows into non-pressurised bulk
BOC LTD 25.11.77-SW-013369
J02 (27.08.79) B01f-03/04 C02c-05/04

A stream of the liq. is pressurised and led through a pipe into a bulk of the liq. at lower pressure. Gas is fed into the pipe, under turbulent conditions, at a rate equivalent to up to 15 times the mass flow rate of the liq. Some gas dissolves; the remainder forms finely distributed bubbles.

The flow velocity of the liq. in the pipe is kept above a min. value of approx. 1.8 m/s, at which the gas bubbles tend to combine to form a discrete gas phase. As the liq. enters the bulk under turbulent conditions, the gas bubbles are broken up into even smaller bubbles, which either dissolve or become suspended in the bulk liq. 25.11.77 as 013369 (-pp1407)

HANW/ ★ D15 67866B/37 ★US 4166-032
Removal of heavy metals from waste waters - by treatment with metal (e.g. sodium) based fibrous cellulose xanthate
HANWAY J E 08.03.76-US-664961
A91 J01 M25 (28.08.79) B01d-15/06

Heavy metals (I) are removed from waste H_2O streams as follows: (a) the waste stream is passed through a porous fibrous filter bed; (b) the (I)-chemisorbed cellulosic substrate is then sepd. from the waste stream. The filter bed is filled with a chemisorbing agent which is an H_2O-insol. fibrous metal base cellulose xanthate (II) (metal is Na, Mg, Ca, Li, K or mixts.).

(II) is pref. Na-base cellulose xanthate. Treatment is for generally 15-30 min. at 20-75°C/pH 4-11 (6.5-10), and is suitable for the removal of Pb, Cr, Cu, Fe, Zn, and/or Hg, etc. (I) may be stripped from (II) by treatment with acid; the residual cellulose may be treated with CS_2/NaOH to regenerate (II).

Efficient, economical process allows ready recovery of sepd. (I) pollutants; avoids the disadvantages of known processes (concomitant formation of sludge); and allows the filter beds to be regenerated and re-used. 8.3.76 as 664961(7pp478)

FARH D15 49728A/28 =US 4166-033
Polyvinyl alcohol sepn. from aq. solns. - by adding boric acid soln. and alkaline earth metal hydroxide
HOECHST AG 07.01.77-DT-700361
*A35 (A14) (28.08.79) *BE-862-753 C02b-01/18 C02c-05/02*

PVA is sepd. from waste water by adjusting the pH to $>$ 11 by the addn. of $Ca(OH)_2$; pptg. a PVA/boric acid/didiol complex from the waste water by adding aq. boric acid which has been pre-neutralised with CaOH; and sepg. the complex from the water.

Pref. a satd. soln. of $Ca(OH)_2$ is used. Pptes. formed settle very rapidly and can be sepd. by filtration or decantation.

PVA can be recovered from the complex by dissolving the ppte. in hydrochloric or nitric acid, enabling solns. of high concn. to be obtd. from highly dil. PVA solns. 5.1.78 as 867141(4pp931)

ENVI- ★ D15 67868B/37 ★US 4166-036
Floating skimmer for removal of contaminants - produced during water purification with angled blades for concentrating contaminants
ENVIRONMENTAL ELEME 13.08.75-US-604432
Q42 (28.08.79) E02b-15/04

A skimmer moves along the length of a rectangular liq. treating tank. The skimmer extends across the width of the tank and is formed of two series of blades, each series formed of a set of oppositely angled inter-connected blades. The first and second series of blades are oppositely angled and are connected where they contact each other to form vertexes for collecting floating contaminant particles.

Floats are connected to the skimmer to maintain a portion of it above the liq. surface. A vacuum is applied to the skimmer near the vertexes to remove the collected contaminants.

The appts. is used to remove floating contaminants produced during water purification. The skimmer is operable regardless of the liq. level in the tank. 13.8.75 as 604432(10pp295)

PICA- D15 77595X/42 =US 4166-037
Carbon filter to replace sand in treating polluted water - layers of carbons of different absorption characteristics
SOC PICA 30.05.75-FR-016931
*J01 (28.08.79) *BE-842-215 +B01d-23/14*

An adsorption filter for purifying water comprises a housing having a filter media; a water inlet; and an outlet for purified water and through which backwashing liq. is applied. The filter material consists of grannular layers of different types of activated carbon which are directly juxtaposed. All of the carbon of one layer has the same mesh size, apparent density and adsorptive capacity.

The material of each layer, proceeding from the inlet to the outlet have decreasing internal pore size and increasing indices of retentivity to retain, by adsorption, dissolved impurities of successively smaller molecular dimensions.

This premits a layer of material more closely adjacent to the filter outlet to retain more fugacious light dissolved impurities not retained or released by desorption by the material of a layer lying more closely adjacent the filter inlet. Only a thin layer of expensive active carbon need be used. 26.5.76 as 690269(26.5.76-US-690169)(4pp976)

AMCY ★ D15 67871B/37 ★US 4166-040
Compsns. for inhibiting magnesium scale in evaporative desalination - contg. polycationic and polyanionic polymers
AMERICAN CYANAMID CO 15.12.77-US-860914
A97 (A14) (28.08.79) C02b-05/06

Compsn. for inhibiting the formation of Mg salts or sludge in evaporative desalination units consists of: (a) a polyanionic polymer (I); and (b) a polycationic polymer (II). (I) has mol. wt. 500-50000; and contains $\geq$50 mol. % of repeating units derived from an ethylenically unsatd. dibasic or sulphonic acid (acid units as free acid; or NH_4 or alkali metal salt) with the balance of repeating units derived from $\geq$1 compatible monomers (III).

(II) has mol. wt. 1500-500000; and may be (a) an $HNMe_2$-polyamine-epichlorohydrin reaction prod. (amt. of polyamine 0-15 mol. % of total amine content; amt. of epichlorohydrin is $\nless$ mol. equiv. of total amine content to full functional equiv. of the total amine content), (b) poly(dimethyldiallylammonium chloride), (c) quat. derivs. of poly(dimethylaminoethylmethacrylate), and (d) poly(oxyethylene(dimethylimino)ethylene(dimethylimino)ethylene)dichloride. Mol. ratio (II):(I) (based on av. mol. wt. of repeating units) is 1.5-25:1.

Compsn. effectively inhibits the formation of Mg scale or sludge in evaporative desalination units, and allows the units to be operated for greatly extended periods of time at high efficiency. The compsn. is also effective against $CaCO_3$ scaling, and thus protects against scale formation at a wide range of temps. 15.12.77 as 860914(5pp478)

AMCY ★ D15 67872B/37 ★US 4166-041
Inhibition of magnesium scale formation in evaporative desalination - with compsns. contg. polyanionic and polycationic polymers
AMERICAN CYANAMID CO 15.12.77-US-860911
A97 (A14) (28.08.79) C02b-05/06

The formation of Mg salts or sludge in evaporative desalination units is inhibited using compsns. contg. (a) a polyanionic polymer (I); and (b) a polycationic polymer (II). (I) has mol. wt. 500-50000; and contains $\geq$50 mol. % of repeating units derived from an ethylenically unsatd. dibasic or sulphonic acid (acid units as free acid; or NH_4 or alkali metal salt) with the balance of repeating units derived from $\geq$1 compatible monomers (III).

(II) has mol. wt. 1500-500000; and may be (a) an $HNMe_2$-polyamine-epichlorohydrin reaction prod. (amt. of polyamine 0-15 mol. % of total amine content; amt. of epichlorohydrin is $\nless$ mol. equiv. of total amine content to full functional equiv. of the total amine content), (b) poly(dimethyldiallylammonium chloride), (c) quat. derivs. of poly(dimethylaminoethylmethacryalte), and (d) poly(oxyethylene(dimethylimino)ethylene(dimethylimino)ethylene dichloride)

Mol. ratio (II):(I) (based on av. mol. wt. of repeating units) is 1.5-25:1.

Compsn. effectively inhibits the formation of Mg hydroxide scale or sludge in evaporative desalination units, and allows the units to be operated for greatly extended periods of time at high efficiency. Compsn. is also effective against $CaCO_3$ scaling, and thus protects against scale formation at a wide range of temps. 15.12.77 as 860911(5pp)

FARN/ ★ D15 67959B/37 ★US 4166-392
Sewage sampler periodically drawing liquid sample into containers - has motor sequentially releasing plunger valves in containers
FARNWORTH C 09.06.78-US-914121
R16 (04.09.79) G01n-01/12

A water/sewer sampling device comprises a water-tight housing in which a set of sample containers is positioned as an annular array. A motor and actuating mechanism is mounted in the centre of the device and provides an indexing function to select sequentially each sampling container.

The mechanism depresses a plunger valve at the bottom of the selected container to allow sewage to enter it. The plunger valve has a knife-edge to shear solid material encountered during closing of the valve.

The appts. is totally submerged in the sewage stream which is to be sampled. 9.6.78 as 914121. (9pp295)

MOTA D15 33540B/18 #US 4166-499
Refuse fired gas generator - with cooling water recycled through pressurised heat exchanger (DK 2.4.79)
MOTALA VERKSTAD AB 08.09.77-DK-004004 (05.10.77-US-839656)
*H09 +P41 (04.09.79) *DT2747-424 +B03c-03*

A gas generator includes a gas cleaner which separates water and water soluble organic cpds. from the gas, and an evaporator to evaporate some of the sepd. water to form water vapour carrying some of the organic cpds. which is re-circulated to the generator. The evaporator includes a heat exchanger to which the water is supplied and removed from by conduits in which the pressure is controlled to prevent boiling and hence precipitation of the cpds. The water is allowed to boil in the exchanger.

In the conduit leading to the exchanger the pressure is pref. increased and that from the exchanger is decreased.

Deposits are prevented in conduits. 5.10.77 as 839656. (7pp1376)

FARB D15 60582A/34 =US 4166-790
Aeration of activated sludge by injectors - with propellant jet flow as defined proportion of air intake (BE 9.8.78)
BAYER AG 09.02.77-DT-705243 (17.04.75-DT-516914)
*P42 (04.09.79) *DT2705-243 C02c-01/12*

Air or other O_2-contg. gases is continuously introduced into an activated sludge effluent by introducing into the sludge which is at a hydrostatic pressure of 0.9-3 bars, air at a pressure of 0.01-0.5 m. head of water above the hydrostatic pressure through injectors having a throat dia. of 8-16 mm. The injectors are up to 1 m. above a basin bottom at a spacing of 1-5 m^2 of floor area, and are charged with a gas throughput of 5-100 m^3/hour.

The outlet cross-sectional area of each injector is pref. 2-15 cm^2. The average load of each outlet is pref. 2-8 m^3/cm^2/hour.

The O_2 in the gas is utilised to a high degree. 22.4.77 as 790108 (+16.4.76-US-677655) (7pp1376)

MARV/ ★ D15 68035B/37 ★US 4166-791
Sewage gas collection reservoir - with valved discharge to household gas line
MARVIN M C 04.08.77-US-821798
(04.09.79) C02c-01/14

A sewage gas collection reservoir is contained within the walls of a sewage tank where it is anchored by support rods. The reservoir includes a top part regulated by a float valve which permits the passage of gas but prevents sewage itself from passing through the part.

The top port is connected by tubing to a terminal fixture where the sewage gas is fed into a gas line. The tubing contains a one-way valve which prevents back-flow of gas into the reservoir.

The reservoir is used to trap sewage gases such as methane and hydrogen for subsequent burning e.g., for lighting purposes. 4.8.77 as 821798. (5pp295)

ATAK- D15 36683Y/21 =US 4166-801
Foam eliminating vessel for sewage fermentation tank - has stationary grids behind rotating ones, separating air and fluid
ATAKA KOGYO KK 06.11.75-JA-133367
*(04.09.79) *DT2650-710 B01d-19/02*

Foam in sewage plants is eliminated by appts. which includes a casing partitioned into a foam collection chamber, purified air chamber in the partition wall, and a sepn. chamber below the wall connecting the collection and air chambers, a stationary grid in the sepn. chamber below the wall and secured to the casing bottom, and a rotatable grid surrounding the other grid in fluid communication with the air chamber. The grid rotates to pulverise foam passing from the collection chamber to the air chamber.

The rotatable grid pref. has equally spaced elements which are inclined to the moving direction of the grid. 5.11.76 as 739138. (5pp1376)

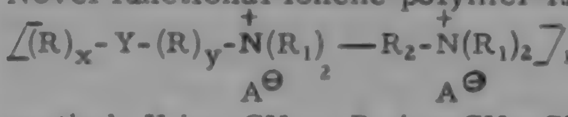
DOWC D15 44350B/24 =US 4166-828
N-Amino-methyl unsatd. carboxamide prodn. - by reacting unsatd. carboxamide, aldehyde and sec. amine in acidic medium, useful as monomer for cationic flocculants
DOW CHEMICAL CO 02.12.77-US-856704
*A41 E16 (04.09.79) *EP---2-254 C07c-102*

Prepn. of a cationic N-(aminomethyl) α, β-ethylenically unsatd. carboxamide comprises reacting an α, β-unsatd. carboxamide with a 1-3C aldehyde and an amine of formula NHR_2 (where each R is hydrocarbyl, or NR_2 forms a heterocycle, the R_2 portion being hydrocarbyl) at pH < 7 whereby $\geqslant 10$ mole-% cationic carboxamide based on the carboxamide reactant is formed. Where the carboxamide reactant is acrylamide the pH is kept at < 5.

The prod. may be quaternised e.g. by reaction with CH_3Cl or $(CH_3)_2SO_4$ and the quaternised monomer can be polymerised in a free radical initiated process at pH < 7 to give a high mol. wt. polymer which is free of gelled or crosslinked material and has no amine odour. The polymers are useful as flocculating agents and as paper drainage and dry strength additives. 2.12.77 as 856704. (6pp945)

CALG ★ D15 68086B/37 ★US 4166-894
Functional ionene polymer prepd. from di:amine and di:halide - used e.g. as coagulants and flocculants, wet dry strength additives for paper, biocides etc.
CALGON CORP 17.11.77-US-852406 (25.01.74-US-436419)
A91 C03 F09 (A26 A82 A87 A97) (04.09.79) C08g-73

Novel functional ionene polymer is of formula



$$\left[(R)_x-Y-(R)_y-\underset{A^{\ominus}}{\overset{+}{N}}(R_1)_2-R_2-\underset{A^{\ominus}}{\overset{+}{N}}(R_1)_2\right]_n$$

(where R is $-CH_2-$ opt. mono-substd. by alkyl or hydroxymethyl; Y is $-CH_2-$, R_1 is $-CH_2-CR_3R_4R_5$ where R_3 is H, 1-4C alkyl or 1-4C alkenyl; R_4 is H, halogen, (cyclo) alkyl, aryl, alkaryl or aralkyl, R_5 is acyclic amide; R_2 is 1-18C alkyl, (opt. interrupted by O or S), aralkyl or cycloalkyl, A^- is anion and x and y are 1-10 and n is $\geqslant 2$).

(I) is used e.g. as solids/liquid sepn. aids, particularly as coagulants and flocculants, dewatering aids for sewage and mineral sludges, pigment retention aids, sheet formation aids in paper mfr. chelating agents, biocides fluid rheological modifiers, wet and dry strength additives for paper, in electroconductive, adhesive and photosensitive coatings, as flame retardants, sequestrants etc. 17.11.77 as 852406 Div ex 4075136 (+ 14.4.76-US-676777) (13pp966)

ADWA- D15 65803B/36 =WP 7900-640
Aerobic treatment of waste water by activated sludge - has intermediate flocculation and filtration zone between aeration and settlement
ADWATRE INC (OTTK/) 18.02.78-CH-001790
*(06.09.79) *NL7901-261 C02c-01/06*
D/S: N(BR, DT, DK, GB, JA, SW, SU, US).

Waste water is biologically purified in an aerobic basin with an aeration zone and a settlement zone, the two zones being separated by an immersed vertical wall which permits the passage of water and suspended matter across its upper edge from the aeration zone to the neighbouring zone and of sludge beneath the lower edge back into bottom f the aeration zone.

The treatment basin is equipped with an intermediate one (33) between the aeration zone and the settlement zone hich serves as a flocculation and filtration bed. The ntermediate zone (33) is formed by the immersed vertical artition (14), the inclined floor of the basin and an ssitional inclined wall (34) with a cap (31) along its outer, ower edge through which the pptd. solids can fall back nto the intermediate zone (33). The geometry of the intermediate zone is such that the communication gap between ettlement zone and the intermediate zone is at approximately half the height of the latter zone (33) and coincides vith the level at which the water flow is at a minimum and s consequently laminar.

The use of the intermediate zone enables a satisfactory circulation of activated sludge to be attained without hydraulic disturbance of the settlement zone so that the clarification is maximised. The clarification is further assisted by the laminar flow zone which also serves as a filtration zone due to the presence of the coagulating particles.

08.02.79 as CH0020 (21pp1370)
(F) ISR: GB-167504; FR2154851; DT22027652; FR2087441; FR2323642; FR1259180; FR1189746.

See Also

D16 SW 7713211 D22 J7 902442 D22 US 4166901

D16: FERMENTATION INDUSTRY

MERI ★ D16 66344B/37 ★BE -874-740
Pretreating Sephadex (RTM) granules used for cell culture - by heating in calf foetus serum to reduce losses of inoculum
MERCK & CO INC 10.03.78-US-885137
A97 (10.09.79) C12b C12k

The granules of DEAE Sephadex A50 (RTM) are immersed in serum of calf foetus and heated for about 10 mins. at 75-90°C before cultivating cells on the granules.

The pretreatment reduces to a min. losses of inoculum and lack of reproducibility. The treated granules give a greater number of cells in a shorter period of time.
9.3.79 as 874740 (6pp597)

BRAX/ ★ D16 66356B/37 ★BE -875-853
Adsorption to obtain trace constituents esp. urokinase from urine - using piped urinal system to handle large vol. of liq.
BRAXTON E J 28.04.78-US-901248
B04 P28 (16.08.79) A47k B01d

A urinal installation for extracting biological trace constituents from urine comprises a reception basin, into which urine is directed and from which it is piped to a chamber contg. an adsorbant element for the biological trace constituents. After passing through the element, urine is piped away for disposal. Urine flow from basin to disposal drain via adsorbant is pref. by gravity.

Between the basin and the adsorbant, the urine is pref. passed through an element to adjust the pH value. The urine can be passed through several adsorbant elements in series, each element constituents.

Used for prodn. of biological substances for medical treatment of diseases, partic. urokinase for dissolving fibrin clots. The installation can be prevented as normal urinal in order to obtain large vols. of urine for extn. Installations can be provided selectively for donors of different biological characteristics. Fresh urine is obtd. with no chlorination contamination. 25.4.79 as 875853 (10pp448)

BELA- ★ D16 B/37 ★BR 7800-376
Reduction of operational flow in alcohol plants
BELA FRANK E NORDO 20.01.78-BR-000376
(21.08.79) C12f-05

YOKO/ ★ D16 B/37 ★BR 7800-640
Industrial fermentation process - by continuous replenishment system
YOKOYA F 02.02.78-BR-000640
(28.08.79) C12b-01

BEHW D16 77904U/51 =DS 2225-548
Distemper/canine hepatitis vaccine - for intravenous administration
BEHRINGWERKE AG 26.05.72-DT-225548
*B04 (06.09.79) *DT2225-548 A61k-39/12*

Intravenously administrable vaccine for distemper and hepatitis centagiosa canis is produced from attenuated distemper virus and inactivated hepatitis virus. The vaccine is concentrated by conventional ultrafiltration is is filtered cell-free, and is free of adjuvants.

The double vaccine provides rapid and long-lasting protection. Hepatitis antibodies can be detected within 3 days, and distemper immunity is built-up simultaneously, being unaffected by the hepatitis strain. 26.5.72 as 225548 (7pp913)

MULL/ D16 17991W/11 =DS 2441-334
Aerobic propagation of bacteria, yeasts, fungi, algae - by transferring large amounts of heat, maintaining optimal temp. constantly
MULLER H 30.08.73-CH-012491
*(06.09.79) *DT2441-334 C12b-01/10*

A device for the aerobic growth of microorganisms when the process is intensely exothermic, consists of a cylindrical or spherical fermenter with a built-in circulation mechanism for air and the nutrient soln., a guide tube and a froth skimmer. The guide tube is equipped with a nest of cooling tubes with an inlet and an outlet for a coolant or with a tube nest heat exchanger.

This simple device is able to hold the growth temp. at 30-40, pref. 35°C, and has a low power consumption.
29.8.74 as 441334 (4pp39)

KYOW D16 85110X/46 =DS 2462-314
Nucleoside-cyclophosphate prepn.. from ribonucleic acid - by enzymatic hydrolysis using intact microorganism cells
KYOWA HAKKO KOGYO 13.02.74-DT-462314 (14.02.73-JA-017449)
*B03 (B02) (06.09.79) *DT2462-314 C07h-19/20*

Nucleoside-3',5'-cyclophosphates are produced by enzymatic hydrolysis of ribonucleic acid in an aq. medium at pH 7.5-9 in the presence of EDTA, cyclohexane, diaminetetraacetic acid or hydroxy EDTA as chelate former and ≥0.17 m phosphate ion.

The microorganism used is Escherichia coli or Aerobacter aerogenes ATCC 8329, Salmonella typhosa ATCC 9992, Pseudomonas aeruginosa ATCC 15246, Hansenula anomala ATCC 20144, Kloeckera apiculata ATCC 18212 or Torulopsis sphaetica ATCC 8549.

Pref. Escherichia coli is used, and the medium is maintained at pH ~ 8. Prods. are used for hormone-controlled metabolic processes, biochemical and medicinal reagents, and pharmaceuticals. 13.2.74 as 462314 Div. ex. 2406811 (4pp913)

AIRL D16 34483Y/20 =DS 2551-411
Vinegar prodn. by fermentation using superoxygenated atmosphere - to increase rate of prodn. while using less energy for aeration
AIR LIQUIDE L' 15.11.75-DT-551411
*(D13) (06.09.79) *BE-848-275 C12j-01/04*

Continuous or semicontinuous prepn. of vinegar is effected by fermentation of ethanol in an oxygen-enriched atmos. contg. 21-40 (21-30) vol. % oxygen. Vinegar is produced more quickly. 15.11.75 as 551411 (3pp068)

LUTH- ★ D16 66419B/37 ★DT 2807-725

Vacuum drier for yeast - having heated discs on shaft inside vessel onto which dilute slurry is sprayed with scrapers to remove powder formed

LUTHER-WERKE GMBH 23.02.78-DT-807725

Q76 (06.09.79) F26b-05/04

Vacuum drier consists of a horizontal cylindrical vessel inside which is a hollow horizontal shaft. This is fed with steam. The shaft has a series of discs mounted along it in the vertical plane. These have spray jets facing them from which the slurry is sprayed onto the discs.

As the discs rotate, their surface is scraped. Any solids forming are thus removed and are collected by screws along the bottom. The drying process is then contained in a vertical section with horizontal heated trays.

Allows dilute suspenions to be dried without the need for high temps. 23. 2. 78 as 807725 (23pp1053)

LUPO- ★ D16 66471B/37 ★DT 2808-981

Hop pellet prodn. - in enclosed casting with top conveyor for drying and bottom conveyor for cooling by air circulation

LUPOFRESH ALLFELD & 02.03.78-DT-808981

(06.09.79) C12c-03/04

Hop pellets with a reduced moisture content are produced from hop cones with ⩽ 15% moisture content by crushing and pelletising the hops in a pellet press. The pellets are then passed through two enclosed endless belt conveyors, arranged above each other. The upper conveyor is used for drying and the lower conveyor for cooling by air circulation.

Arrangement saves heat energy compared with the conventional hop cone drying and requires less machinery. None of the aroma of the hop is lost. 2. 3. 78 as 808981 (12pp39)

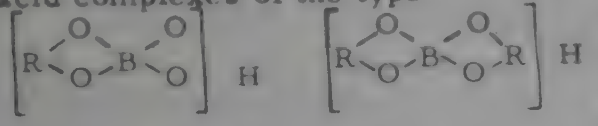
OPUS- ★ D16 66558B/37 ★DT 2906-730

Liquid or tabletted preservative for bacteriological samples - based on organic boric acid complex cpds. produced by thermal dehydration of diol ester

OPUS CHEMICAL AB 24.02.78-SW-002147

E12 (D22) (06.09.79) C12k-01/08

Liq. or tabletted preservative for samples subjected to bacteriological laboratory test comprise organic boric acid complexes of the type



(In (I) R is ethylene glycol, propane-1, 2-diol, glycerol, fructose, mannitol or sorbitol) or other water-sol. dioxa- or polyoxa-cpds. and produced by heating so that 1-2 mole water are expelled.

The preservative, which pref. is added to the transport medium, is effective in amts. as low as 0. 5-0. 8% boric acid, e. g. 0. 4-1. 4 ml/9 ml urine. 21. 2. 79 as 906730 (25pp016)

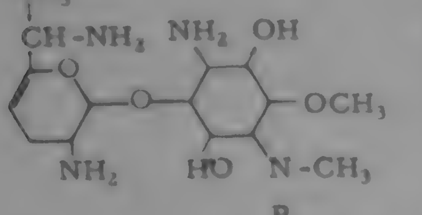
KYOW ★ D16 66600B/37 ★DT 2908-150

Antibacterial fortimicin KG derivs. - prepd. by cultivating Micromonospora species

KYOWA HAKKO KOGYO 03.03.78-JA-023552

B03 E13 (D22) (06.09.79) A61k-31/35 C07h-15/22 C12d-09/22

Fortimicin derivs. of formula (I) and their acid salts are new:



(R is $COCH_2NH_2$ for fortimicin KG_3, or is H for fortimicin KG_1 and KG_2). KG_1 has the following characteristics: m. pt. 95-98° C; $[X]^{22}$ = + 58. 3° (c = 0. 66 in water)$_{p}$. IR Spectram (KBr) 3360, 2930, 1675, 1590, 1370, 1110, 1055 and 1000 cm^{-1}; NMR Spectrum (in D_2O; pD = 10. 7) δ = 153. 1, 101. 2, 95. 2, 83. 4, 83. 2, 75. 2, 73. 4, 62. 2, 60. 1, 54. 8, 48. 9, 47. 4; 33. 6, 25. 7 and 20. 5 ppm.

KG_2 has the following characteristics, m. pt. 83-5°C; $[\alpha]_D$ [illegible] = + 30° (c = 0. 76 in water), IR Spectrum (KBr) 3350, 2920, 1675, 1590, 1370, 1090, 1030 and 990 cm^{-1}; NMR Spectrum (as above) δ = 153. 1, 101. 3, 95. 3, 82. 2, 80. 0, 71. 3, 71. 1, 61. 1, 59. 3, 53. 8, 48. 9, 47. 3, 35. 4, 25. 6 and 20. 5 ppm. (I) are prepd. by cultivation of Micromonospora species.

(I) are broad-spectrum antibacterials useful therapeutically, for sterilising glassware, etc. and in soaps etc. K(is esp. active against strains of E. coli resistant to othe antibiotics and has LD_{50} 225 mg/kg (intravenously in mi 2. 3. 79 as 908150(28pp1251)

CNRS ★ D16 66607B/37 ★FR 2410-4

Peptidoglycan extracts of bacteria, esp. Bacillus species - stimulating antitumour immunity

INST NAT SANTE RECH MED 30.11.77-FR-036196

B04 (03.08.79) A61k-35/74

Use of peptidoglycans (I) in the form of natural, insoluble extracts of bacteria, esp. of the genus Bacillus, as pharmaceuticals is new. Pref. the bacteria used are B. megaterium (ATCC 14581), B. licheniformis (ATCC 994 and Corynebacterium poinsettiae (NCPPB 846). Pref. compsns are aq. suspensions, opt. contg. an antiseptic, formulated for admin. by injection.

(I) are useful as a complement to other anticancer tre tments to prevent metastatics and relapses. They can be administered at about 1mg/10 kg 1-2 times per week. Their side effects (if any) are less severe than those of C. parvum extracts. 30. 11. 77 as 036196 (24pp1251)

KRON- ★ D16 66635B/37 ★FR 2410-8

Automatic periodic sampling and analysis of beer durin fermentation - for improved quality control of large sca automated brewing

KRONENBOURG BRASSER 02.12.77-FR-036953

A88 J04 R16 (03.08.79) B01d-15/08 C12l-07 G01n-01/10 G01 33/14

The sample is automatically prepd. and analysed to determine the proportion of volatiles. Each of several sampling circuits in turn is switched through a three-wa valve with rinsing branch and single delivery to the coil of a temp. regulating bath. The sample is then piped tangentially into the base of a sample prepn. vessel. The vessel. The vessel has an inlet for injection of pressurised, inert gas and an outlet leading to a gaseous phase chromoatograph analyser. The installation is automatically sequenced by a process control programme unit. Circuit rinsing is automatic between sampling operations.

The sample prepn. vessel pref. has a gas inlet diffus near the base of the vessel, as well as a liq. level detect controlling the level via signals to the programme unit. The carrier gas is pref. carbon dioxide. The temp. regulating bath is pref. fitted with both refrigerating and heating elements.

Used for automatic, regular sampling of beer during the course of fermentation followed by precise, gaseous phase chromatographic determin. of proportion of volatiles. The prods. provides the frequent, e. g. 4-hourly, monitoring of fermentation necessary to assure reliable quality control of automated brewing operations. A single analyser efficiently serves several fermentation tanks partic. three or four outdoor tanks each with a capacity of several million litres. 2. 12. 77 as 036953 (14pp448)

BIOR- D16 60478A/34 =GB 1552-2

Prodn. of acetone and butanol from cellulose - by single sta saccharification and fermentation process

BIO RES CENT CO LTD 28.04.77-JA-049401

*E17 F09 (12.09.79) *BE-863-677 C12d-03/02*

Acetone and butanol are produced from cellulosic materi (I) by reacting (I) simultaneously with a cellulase and a acetone-butanol producing microorganism (II) thus saccharifying and fermenting (I) to give the desired prods. .

The cellulase may be a culture of Trichoderma Viride or it may be a commercially available prod., esp. Cellulase Onozuka, (II) is pref. Clostridium acetobutylicum or C. saccharoacetohutylicum. Reaction is pref. effecte at 30-55°C at pH 4-6.

A wide variety of waste materials e.g. wood, rice straw, husks, corn stalks or cobs, paper and cardboard waste etc. can thus be utilised. Process is simplified a inhibition of the cellulase and (II) by glucose is reduced, thus giving increased yields. 21. 12. 77 as 053337 (3pp).

ACDD D16 64972Y/37 =GB 1552-261

utomatic microbial analyser of pathogen samples in test cards - nables unskilled operative to process 100 samples per day

MCDONNELL DOUGLAS CORP 03.05.76-US-682664

*B04 J04 R16 R27 +R28 (12.09.79) *BE-852-233 C12k-01/04 G01n-21/24*

Diluted biological specimens in viewing wells in cards tored in a holder are examined in an automated microbial nalyser which has a mounting element positioned opposite he holder and on which is mounted an extractor to grip nd remove the cards from the holder, a light emitter to project light through the wells when the cards have been removed, and a light detector to determine the intensity of light passing through the wells.

The extractor also pref. replaces the cards in the holder. Identifying marks on the cards are pref. also detected by a device on the mounting element.

A large number of specimens can be monitored daily. 11.1.77 as 000963 (21pp1376).

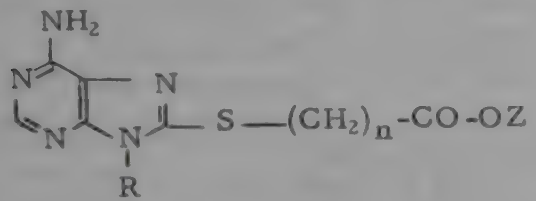
SNAM D16 06130Y/04 =GB 1552-453

Adenosine dervis. with 8-omega-carbonyl side chain and prepn. - from 8-halo deriv. and mercapto carboxylate and opt. amino-substd. polymer(BE1701)

SNAMPROGETTI SPA 04.05.76-IT-022958 (15.07.75-IT-025419)

*A97 B02 +P43 (12.09.79) *DT2631-046 C07d-473/34 C07h-19/20*

Adenine derivs. of formula (I) are new. In (I) n 4, R is a non-adenine radical and Z is H or metal atom.



(I)

(I) are prepd. by reacting a cpd. contg. an adenine nucleus which is halosubstd. in the 8-position with a cpd. of formula $M^{+-}S-(CH_2)_n-COO^-M^+$ (where M is alkaline metal and n $\leqslant$4) and opt. converting the alkali metal salt to free acid or to another salt. Reaction is pref. at 20-60°C in polar aprotic solvents.

The addn. of the 8-carboxyalkylthio radical widens the use of (I) in enzymatic reaction. The (I) may be embedded in e.g. polyacrylamide gel. 12.7.76 as 028951 (3pp964).

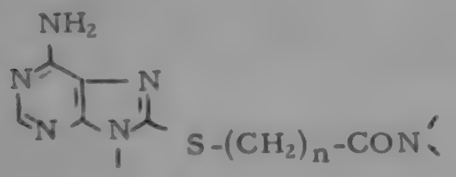
SNAM D16 06130Y/04 =GB 1552-454

Adenosine dervis. with 8-omega-carbonyl side chain and prepn. - from 8-halo deriv. and mercapto carboxylate and opt. amino-substd. polymer(BE1701)

SNAMPROGETTI SPA 04.05.76-IT-022958

*A97 B02 +P43 (12.09.79) *DT2631-046 C08b-37/02 C08g-69/48 +B08g-73/04*

A substance formed by the attachment of an adenine deriv. to a macromolecule contains in its molecule $\geqslant$1 unit of formula (I), where n is $\leqslant$ 4, where the N atom bound to the CO gp. is part of a macromolecule, and the cyclic part of the units is desirable from a cpd. having an adenine nucleus (e.g. NAD).



(I)

The macromolecule is pref. a polylysine, an aminoalkyl polyacrylamide, a polyvinylamine, a polyglutamic acid deriv., a polyethylene imine, an aminoalkyl silanised glass microsphere etc. Used e.g. in affinity chromatography or as active, non-diffusible coenzymes. 12.7.76 as 38432/78 Div.ex. 1552453 (5pp997).

BIOC D16 49608A/27 =GB 1552-457

Pleuromutilin solvates with a halogenated aliphatic hydrocarbon - useful for purifying crude pleuromutilin antibiotic

BIOCHEMIE GMBH 23.07.75-CH-009623

*B05 (12.09.79) *US4089-891 C07c-69/67 +C07c-19 C07c-149/26*

Solvates of pleuromutilin with halogenated hydrocarbons, e.g., 1,1,1-trichloroethane, are new and are pref. prepd. e.g. by (i) mixing the pleuromutilin with 5-100 times the amount (g/ml) of a halogenated hydrocarbon, (ii), maintaining the mixture at 25-150°C until the pleuromutilin dissolves, and (iii) allowing the mixture to cool so that the solvate crystallises out.

Theformation of the solvates is a step used in the purification of pleuromutilin, partic. crude material obtained by fermentation. Pleuromutilin is a known antibiotic and a starting material for derivs., partic. esters, having e.g. antibacterial activity. Partic. 14-desoxy-14-[2-(diethylamino)ethylmercaptoacetoxy] mutilin is prepd. using a pleuromutilin purification step involving solvate formation. 20.7.76 as 030114 (4pp990).

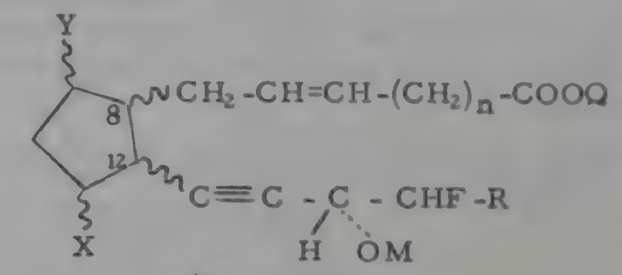
UYCH- D16 18176Y/11 =GB 1552-497

(16)-Fluoro prostaglandin analogues - are smooth muscle contractants, bronchodilators, etc. not affected by prostaglandin inactivating enzymes

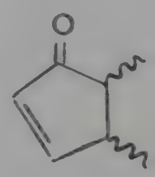
UNIV CHICAGO (RICH) 10.09.75-US-611855

*B04 (12.09.79) *BE-846-080 A61k-31/19 C07c-177 +C07f-07/18*

Prostaglandin cpds. of formula (I) are new. In (I), n is 2, 3, 4 or 5. M is H, α-(1-6C) alkoxy-(1-6C) alkyl, 1-6C alkyl or 2-7C carboxylic acyl. R is alk(en)yl or aralkyl. Q is H or alkyl. X is OH, carboxylic acyloxy or alkoxy. Y is OH, carboxylic acyloxy or alkoxy.



(I)



(II)

Also new, and claimed, are cpds.(I; where Y is =O) and cpds. (I; where the ring is of formula (II)). Cpds. have prostaglandin-like activities. Some of the cpds. are resistant to prostaglandin 15-dehydrogenase (prostaglandin-inactivating enzyme) and so have a prolonged or enhanced action cf. naturally-occurring prostaglandins. 3.9.76 as 036570 (4pp992).

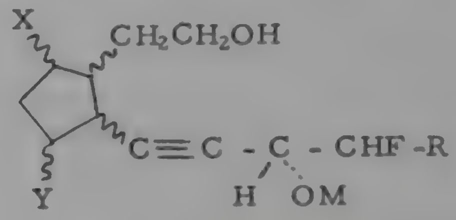
UYCH- D16 18176Y/11 =GB 1552-498

(16)-Fluoro prostaglandin analogues - are smooth muscle contractants, bronchodilators, etc. not affected by prostaglandin inactivating enzymes

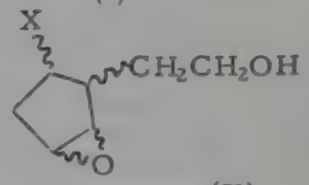
UNIV CHICAGO (RICH) 10.09.75-US-611855

*B04 (12.09.79) *BE-846-080 +C07c-35/06*

Prostaglandin intermediates of formula (I) are new. In (I), M is H, α(1-6C)alkoxy-(1-6C)alkyl, 1-6C alkyl or 2-7C carboxylic acyl. R is alk(en)yl or aralkyl. Xis OH, carboxylic acyloxy or alkoxy. Y is OH, carboxylic acyloxy or alkoxy.



(I)



(II)

(I) are prepd. by reacting a cpd. of formula (II) withan aluminium acetylide of formula $(R_1)(R_1O)$-Al-C=C(αOM_1)(βH)--CHF-R (III), where R_1 is 1-6C alkyl; M is H, 1-6C alkyl or α-(1-6C)alkoxy-(1-6C)alkyl. The obtd. cpd. (I; Y is OH and M is M_1) is then opt. converted to other cpds. (I).

(I) are intermediates for prostaglandins claimed in GB 1552497, via cpds. claimed in GB 1552499. 3.9.76 as 289/78 Div.ex 1552497 (3pp992).

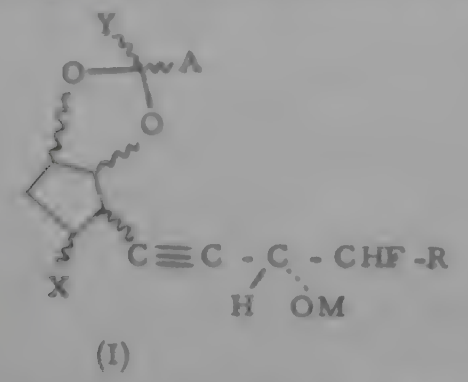
UYCH- D16 18176Y/11 =GB 1552-499

(16)-Fluoro prostaglandin analogues - are smooth muscle contractants, bronchodilators, etc. not affected by prostaglandin inactivating enzymes

UNIV CHICAGO (RICH) 10.09.75-US-611855

*B04 (12.09.79) *BE-846-080 C07d-307/93*

Prostaglandin intermediates of formula (I) are new.



(I)

In (I), M is H, a-(1-6C)alkoxy-(1-6C)alkyl, 1-6C alkyl or 2-7C carboxylic acyl. R is alk(en)yl or aralkyl. X is OH, carboxylic acyloxy or alkoxy. Either A is H and Y is OH, carboxylic acyloxy or alkoxy or A and Y together are oxo.

Pref. X is OH, M is H and either (a) ~ C≡C-CH(OM)-CHFR is β and the other ~ bonds are α or (b) ~ C≡C-CH(OM)CHFR is α and the other ~ bonds are β; Y and A being either α or β.

Cpds. are intermediates for prostaglandins claimed in GB 1552497 3.9.76 as 290/78 Div. ex. 1552497 (3pp).

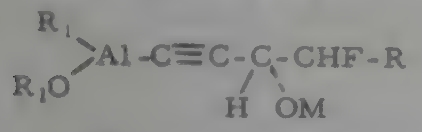
UYCH- D16 18176Y/11 =GB 1552-500

(16)-Fluoro prostaglandin analogues - are smooth muscle contractants, bronchodilators, etc. not affected by prostaglandin inactivating enzymes

UNIV CHICAGO (RICH) 10.09.75-US-611855

*B04 (12.09.79) *BE-846-080 C07c-33/04 C07c-43/12 C07c-47/24 C07c-69/83 C07c-87/28 C07f-05/06*

A noval compsn. comprises an Al acetylide deriv. of formula (I) in an organic solvent. In (I), M_1 is H, a-(1-6C) alkoxy-(1-6C)alkyl. R is alkyl, alkenyl or aralkyl; and R_1 is 1-6C alkyl. Pref. M_1 is tert butyl and R_1 is methyl.



$$\genfrac{}{}{0pt}{}{R_1}{R_1O}\!>\!Al-C\equiv C-\underset{H\quad OM}{C}-CHF-R$$

(I)

(I) are useful as intermediates in the synthesis of 13,14-didehydro-16-fluoro-prostaglandins. (I) may be prepd. by reacting hydrate of formula $(HO)_2CH-CHF-R$ with ethynyl magnesium halide, reacting with alkyl lithium followed by reaction with alkyl alkoxy Al halide. 3.9.76 as 291/78 Div. ex. 1552497 (4pp964).

NOVO D16 32844Y/19 =GB 1552-542

(L- alpha)-Aminoacyl-amidase enzyme - obtd. by culture of Pseudomonas putida, Ps. reptilivora or Ps. arvilla

NOVO INDUSTRI A/S 08.01.76-LU-074142

*B05 (12.09.79) *BE-850-177 C07c-99 C07c-101/04 C07g-07/02*

Enzyme preparations having L-α-amino acyl amidase activity are produced by cultivating a Pseudomonas reptilivora or P. arvilla in a nutrient medium contg. assimilable C, N and P sources. Pref. strain used in P. reptiliviro ATCC 14039 or P. arvilla ATCC 23974.

The enzyme is used to separate a DL-α-amino acid amide to the D-α-amino acid amide and the L-α-amino acid. 7.1.77 as 000646 (3pp974).

BASS- ★ D16 66651B/37 ★GB 2015-316

Treatment of spent brewers grains with alkali - to give more digestible animal feed prods.

BASS LTD 20.04.79-GB-013858 (21.01.78-GB-002531)

C03 (D13) (12.09.79) A23k-01/06

Spent grains (brewers' grains) for use as animal feeds are treated with an alkali or with alkalis.

The grains are made more digestible to animals, including birds, and esp. to ruminants, and they provide more energy than the untreated grains, without dilution of the protein content, so that in ruminants this protein is still digested in the hind gut. The treated grains are more susceptible to enzymatic hydrolysis in the rumen, and the highly ordered crystalline portion is swollen, also assisting enzymatic hydrolysis. 20.4.79 as 013858 (4pp1248).

KYOW ★ D16 66679B/37 ★GB 2015-525

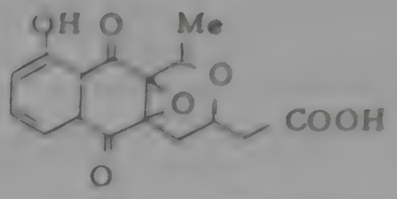
Prodn. of antimicrobial nanaomycin E - by cultivation of Streptomyces rosa ATCC 31155

KYOWA HAKKO KOGYO 07.03.78-JA-025041

B02 (12.09.79) A61k-31/35 C07d-311/92 C07d-493/08

Nanaomycin E of formula (I) and its salts are new:

(I) is active against Gram-positive bacteria, Trichophyton and Mycoplasma, and is useful for treating appropriate conditions in man and animals. It is an intermediate for the prepn. of nanomycin A as described G.B. 2015526. (I) has LD_{50} 60 mg./kg. intr ously in mice.



(I)

6.3.79 as 007886 (10pp1248).

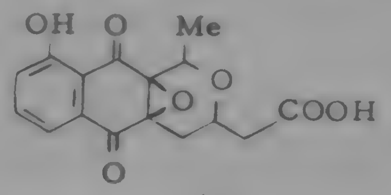
KYOW ★ D16 66680B/37 ★GB 201

Prepn. of antimicrobial nanaomycin A in high yield - by red nanaomycin E esp. in unpurified fermentation media

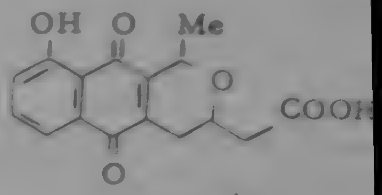
KYOWA HAKKO KOGYO 07.03.78-JA-025042

B02 (12.09.79) C07d-311/92

Prepn. of nanomycin A of formula (I) comprises reduc nanomycin E of formula (II).



(II)



(I)

(I) is obtd. in relatively high yield. (I) is active agai Gram-positive bacteria, Trichophyton and Mycoplasma, and is useful for treating appropriate conditions in man and animals; it has high activity, good stability and low toxicity. 6.3.79 as 007887 (12pp1248).

BAXT ★ D16 66705B/37 ★GB 2015-7

Testing liquid sterility for bacteria and mould - by dividing samp flow into separate filtered growth chambers

BAXTER TRAVENOL LAB 13.03.78-US-885747

R16 (12.09.79) C12k-01/06 G01n-15/06

A liq. sample flows down a conduit toa Y-connector whic divides the flow into two sub-streams. Each sub-stream flows to a separate chamber with an air vent which allow the sample liq. to flow into each chamber. A filter is located at the lower end of each chamber above a vacuum manifold to draw the sample through the filter.

A different growth medium is then introduced into eac chamber via an injection site at the top of each chamber. Pref. each test chamber is constructed of PVC with a wal thickness > 0.020 in. to prevent oxygen diffusion into the chamber. Pref. each filter has a pore size of 0.45 μ.

A sample is divided into two sub-streams which are se arately filtered and incubated after the introduction of growth media to detect respectively the presence of bacteria or mould in the sample. The appts. avoids the handling step of a previous method in which the sample is retained on a single filter which is then cut in two prior to incubation. 12.3.79 as 008659 (8pp295).

HASE ★ D16 66740B/37 ★J5 4096-53

Chromogenic prods. of gardenia fruit dye - are obtd. usin Hansenula Saccharomyces or monascus strain

HASEGAWA KK 17.01.78-JA-002648

E24 (31.07.79) C09b-61

Yellow gardenia fruit dye is contacted with a chromogenic prod. formed by a chromogenic strain selected from Hansenula, Saccharomyces and Monascus and capable to convert the gardenia dye from yellow to yellowish green or blue at a pH of 3-10 at 10-60°C toform dye for dyeing food drinks, medicals, perfumes and cosmetics.

In an example, 20g corn starch, 1.5 g ammonium nitrate, 1.0 g of corn steep liquor, 0.6 g dihydrogen phosphate, 4.0 g of disodium hydrogen phosphate and 0.5 g $MgSO_4$ were dissolved in 1 l of deionised water, to which 100 ml of gardenia fruit extract having absorbance of 1400/ml at 440 mμ. The pH of the culture medium was adjusted to 6 and sterilised at 120°C for 15 min. by means of a shaking machine. The culture medium was seeded with 2 Pt loops of Hansenula anomala OUT 6816 cultured on yeast slant for 3 days and then cultured at 30°C for 3 days under shaking. The cultured mixt. was sterilised at 85°C for 30 min. and filtered through diatomaceous earth to obtain gre en filtrate having absorbance of 103 at 440 mμ and 71 at 595 mμ.

Process provides yellowish green or blue and water-sol. es having resistance to light and heat. 17.1.78 as 02648(8pp)

MRO ★ D16 66834B/37 ★J5 4097-491
etermn. of enzyme activity - using coenzyme fixed on porous olymer film e.g. of cellulose ester
OMRON TATEISI ELTRN KK 19.01.78-JA-004638
A96 B04 J04 R16 (01.08.79) G01n-27/46

specimen and substrate are introduced into a determin- ng chamber equipped with a relative electrode and an act- ve electrode whose surface is coated with film of fixed coenzyme; enzyme reaction is carried out in the chamber by ontact of the specimen and substrate with coenzyme; and he coenzymes which have become oxidised or reduced re electrochemically circulated and the resultant electric urrent measured. The fixed coenzyme is prepd. by fix- ng coenzyme on porous polymer film.

The fixed coenzyme is strongly active and stable; coen- yme can be used repeatedly; analysis is carried out rap- dly and continuously by simple operation; the analytical quipment has excellent durability and long work life; etc. The film of coenzyme is prepd. by adsorbing coenzyme on orous film of polymer, e.g., regenerated cellulose, ellulose ester, etc. chemically or physically. 19.1.78 s 004638(6pp90)

GREM ★ D16 66932B/37 ★J5 4097-692
Antitumoural straight chain mannan cpds. - obtd. by culturing yeast of Saccharomyces strain
GRELAN PHARMACEUTICAL KK 20.01.78-JA-004214
B04 (01.08.79) A61k-31/71 C08b-37 C12d-09/04

Straight chain mannans of a mol.wt. > 10000 are obtd. by culturing strain of yeast belonging to Saccharomyces, extracting the mannas from the yeast plant, and purifying.

The prods. do not contain N and P and have an angle of rotation of 60-65° (in water). The yeast is cultured generally with shaking or stirring and ventilation. The culture is carried out at 25-45°C for 24-200 hrs. For the culture, liq. culture medium is pref. used. As source of carbon, glycose, starch, citric acid, glycerine, etc. are used and source of N, casein, peptone, bean powder, ammonium sulphate etc. are used. 20.1.78 as 004214(7pp136)

GREC ★ D16 66962B/37 ★J5 4098-306
Cholinesterase prodn. from human blood plasma - by selective pptn. and extn., using polyethylene glycol, anion exchange resin, ammonium sulphate, and sodium sulphate
GREEN CROSS CORP 23.01.78-JA-005302
A96 B04 (A25) (03.08.79) A61k-35/16 A61k-37/54

Method comprises performing the following steps (a), (b) and (c) in desired order. Step (a) comprises adding polyethylene glycol to aq. medium (protein content 0.5-5% w/v) of human blood plasma or blood plasma protein contg. fraction, including cholinesterase at pH 3-7 to give 3-5% w/v polyethylene glycol concn., removing the ppte., adding polyethylene glycol to the supernatant to give 5-25% w/v polyethylene glycol concn., and recovering the resulting ppte.

Step (b) comprises contacting human blood plasma or blood plasma protein contg. fraction, including cholinesterase with anion exchange resin at pH 4-6, at low base concn., and eluting with aq. soln. of base, at pH 4-10. Step (c) comprises removing a ppte formed by adding an amt., corresp. to 30-40% saturation, of $(NH_4)_2SO_4$ and an amt., corresp. to 3-10% w/v concn., of Na_2SO_4, to aq. medium of human blood plasma or blood plasma protein contg. fraction, including cholinesterase, at pH 4-10, from the aq. medium and recovering a ppte. formed by adding an amt., corresp. to 30-60 saturation, of $(NH_4)_2SO_4$ and an amt., corresp. to 10-20% w/v concn., of Na_2SO_4 to the blood serum.

High purity cholinesterase is produced. It is useful for treatment of toxicosis, caused by organic phosphorus, and of difficulty in breathing, caused by over-dosing of succinyl choline chloride in surgical operations. 23.1.78 as 005302 (7pp68)

BIOR- ★ D16 66981B/37 ★J5 4098-389
Preparing yeast body from cellulose material - by adding cellulase and yeast to a culture medium contg. cellulose as carbon source, and culturing the yeast
BIO-RES CENT KK 19.01.78-JA-004527
(03.08.79) C12b-01 C12c-11/08

Commercial cellulase, the enzymic extract of Trichoderma viride, its cultured liq., etc. can be used. Examples of applicable yeast strains are Candida utilis, C.tropicalis, Saccharomyces cerevisiae, S.carbobergens, Mycotorula japonica, etc. Practically the liq. culture medium contg. cellulose 1-50 w/w% nitrogen source, inorganic salts and nutrients, is sterilised and after adding cellulase and seed yeast, the culture is practiced at 25-45°C at pH 3-7 for 1-4 days.

Yeast body can be prepared with high yield from cellulose materials in a single process. As the cellulose material not only refined cellulose, but also various cellulose-contg. agricultural prods. and various cellulose-cotg. waste materials and the method is valuable from the view point of utilisation of resources. 19.1.78 as 004527 (4pp5)

MITC ★ D16 66982B/37 ★J5 4098-391
Plant callus growth - by culturing in presence of 3-isopropyl phenoxyacetic acid which has auxin properties
MITSUI PETROCHEM IND KK 20.01.78-JA-004221
E14 (03.08.79) C12k-09

Method is characterised by carrying out the culture in the presence of 3-isopropylphenoxyacetic acid (I). (I) had auxin properties.

Pref. (I) is combined in an amt. of 10^{-4}-10^{-6} mol/l in known culture medium for tissue culture and callus is laid and cultured in the culture medium. Using tobacco callus (I) shows similar or superior auxin activity c.f. indolacetic acid and with (I) good white callus can be obtd. 20.1.78 as 004221(3pp5)

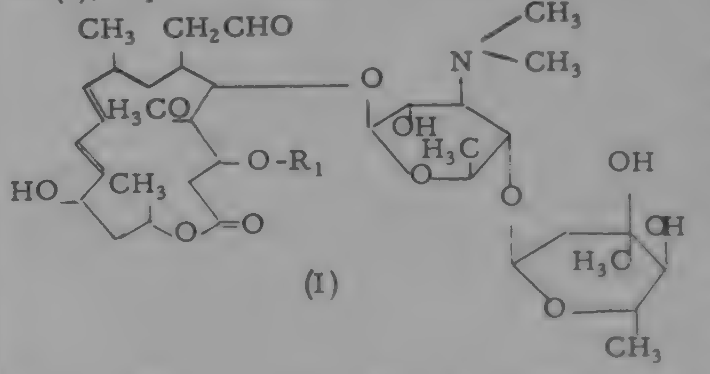
SANY ★ D16 66983B/37 ★J5 4098-392
Thielavin A and B prepd. using Thielavia fungi - with antiinflammatory and prostaglandin biosynthesis-inhibiting activity
SANKYO KK 17.01.78-JA-003454
B04 (03.08.79) A61k-35/84 C12d-13

Thielavin A and Thielavin B are new. They are prepd. by culturing fungi of the Thielavia genus and have prostaglandin bioxynthesis-inhibiting action and antiinflammatory action.

Pref. fungi strain is e.g. Thielavia terricola SANK 10475 strain (FERM p-4341). The cpds. may be administered in form of capsules or tablets or by injection. 17.1.78 as 003454(8pp69)

TOXN ★ D16 67033B/37 ★J5 4098-793
Deacylated antibiotics - used in mfr. of 13-acylated cpds. having antimicrobial activity
TOYO BREWING KK 27.01.77-JA-008078
B03 (03.08.79) C07h-17/08 C12d-09 C12d-13

Deacylated antibiotics of formula (I), or salts, are new. In (I), R_1 = H , acetyl or propionyl.



(I)

(I) only possess low antimicrobial activity, but give 13-acyl antibiotics exhibiting fairly good antimicrobial spectra and blood concns. by acylating the 13-hydroxy gp. and then acylating the 4''-hydroxy gp.

Prepn. comprises reacting an antibiotic of formula (I) where the 4''-OH gp. is a gp. $-OR_2$ (in which R_2 is acetyl, propionyl, butynyl or isovaleryl) with an esterase which specifically splits the ester bonded to the 4''-position. The reaction is pref. in the presence of a culture or a treated culture of microorganism capable of producing the esterase. The esterase-producing microorganism includes those belonging to Genus Nocardia or Staphylotrichum (e.

g. Nocardia sp. FERM-P 2019, Nocardia corallina IFO 3338, Nocardia gardneri IFO 3385, Staphylotrichum cocco-sporum FERM-P 2280, etc.). The antibiotic (II) is prepd by allyl rearrangement of a known antibiotic, e.g. leucomycin A_1, A_5, A_7 and A_9, YL-704A_3, etc.) 27.1.77 as 008078 (9pp140)

MIYA- ★ D16 67261B/37 ★J7 9022-915
Accelerating the growth of seaweed - by cultivation in sea water. which has been irradiated with UV light
MIYAKO KK 10.03.76-JA-026404
P13 (09.08.79) A01g-33 C12k-01

Sea water is irradiated with UV-rays at a dose rate of ⩾ 150 wh/liter and is used for cultivation of seaweeds.

Growth of the seaweeds is accelerated and the resulting seaweeds have high resistance to sea water. 10.3.76 as 026404 A01g-33/00, C12k-1/00 (9.8.79) MIYAKO KK (2pp) (J52112592)

TAKE D16 52153U/36 =J7 9023-994
Dust-free powdered compsn contg protease prepn - - for use in detergents
TAKEDA CHEMICAL IND KK 25.03.72-JA-030112
*A97 (D25) (17.08.79) *BE-797-215 C07g-07/02 C11d-03/38 +C12d-13/10*

A culture broth of a protease-producing micro-organism is used as source of moist ppts. contg. protease. These ppts. are (a) contacted with a hydrophilic org. solvent contg. 15-30 % water; (b) dried until the solvent content in the ppts. is < 10% (c) comminuted to a powder and (d) admixed with a non-volatile wetting agent.

Solvents for (a) are e.g. alcohols and aliphatic ketones such as acetone; (c) is pref. a polyethylene glycol of mol. wt. 400-600. 25.3.72 as 030112 C07g-7/02, C11d-3/386, C12d-13/10 (17.8.79) TAKEDA CHEMICAL INDS LTD (5pp)(J48096784)

AJIN ★ D16 67299B/37 ★J7 9023-993
Removing microorganism bodies from culture soln. - by placing cathode and anode in the soln., applying a voltage and sepg. the bodies by filtration
AJINOMOTO KK 29.10.71-JA-086051
(17.08.79) C12b-01/26

In culture solution of microorganism are set cation and anion electrodes, followed by being charged, and separation by filtration is conducted, whereby body of the microorganism can be removed effectively. 29.10.71 as 086051 C12b-1/26 (17.8.79) AJINOMOTO KK (6pp22)(J48049977)

NAFO- D16 38893V/21 =J7 9023-995
Maltohexose producing amylase prepn - from Aerobacter genus. Bacteria
NATFOOD RES INST 30.09.71-JA-075809
*(17.08.79) *J48039-688 +C07g-07/02 C12d-13/10*

Bacteria belonging to genus Aerobacter inductively produced a specific amylase, which degrades starch, glycogen, amylopectin, amylose, and etc., to maltohexose, grown in a medium contg. glucose, maltose, amltooligo-saccharides, starch hydrolysates having a low dextrose equiv. and sol. starch as C-so ce.

In an example A. aerogenes was precultured aerobically in 500 ml. medium contg. yeast ext. 0.5%, Na_2HPO_4 0.1%, KCl 0.1%, $(NH_4)_2SO_4$ 0.3%, $FeSO_4 7H_2O$ 0.005%, $MgSO_4 . 7H_2O$ 0.05% and maltose 0.8% for 15 hrs. The cultured broth was then transferred to 10 l. fresh medium and cultured for 15 hr. in a jar fermentor. Cells grown were collected by centrifuge (10,000 rpm., 20 min). and vibrated in a soln. of detergent such as Na-dodecyl sulphate to ext. the enzyme. The crude enzyme contaminated with trace α-amylase was purified by DEAE-Sephadex. Activity of the enzyme prepn. was 0.5-1.0 units per mg. protein (unit = activity which give 1 mg. maltohexose/hr. from sol. starch). 30.9.71 as 075809 C12d-13/10, C07g-7/02 (17.8.79) NAT FOOD RES INST; (10pp)(J48039688)

KYOW D16 57057U/39 =J7 9023-996
Fermentative prodn of citric acid
KYOWA HAKKO KOGYO 13.10.71-JA-080117
*E17 H04 (17.08.79) *J48044-486 +C12d-01/04*

The selective accumulation of citric acid (I) by I-producing yeast was stimulated by the addn. of polyhydric alcohol into the medium contg. hydrocarbon. In an example, Candida zeylanoides ATCC 15585 was cultured for 6 days at 30°C on 5% 12-18C n-paraffin, 0.1% yeast extract etc. with polyhydric alcohol.

The ratio of n-paraffin/isocitric acid accumulated was 60.1 (mg/ml)/1.1 (mg/ml) with 1% 2.3 propandiol; 60.8/3.3 with 1% glycerol; 18.0/18.5 with 1% MeOH; 20.2/19. in the bland experiment without alcohol. 13.10.71 as 080117 C12d-1/4 (17.8.79) KYOWA HAKKO KOGYO CO. LTD. (4pp)(J48044486)

KYOW D16 43112U/31 =J7 9023-99
Megalomycins prodn - by fermentation
KYOWA HAKKO KOGYO 07.03.72-JA-022828
*B03 (17.08.79) *DT2301-080 +A61k-31/71 C07h-17/08 C12d 09/14*

Megalomycins (a known gp. of antibiotics with broad spectrum antibacterial activity) are produced simply and inexpensively by cultivating Micromonospora inositola ATC 21773 in a nutrient medium and isolating the megalomycins accumulated in the medium.

The megalomycins can be isolated by extraction with organic solvents and other conventional procedures in the form of a powder. Column chromatography of this on alumina followed by counter current distribution gives megalomycin C_2, B and A. Megalomycin B can be split into 2 components of which one is the new cpd. 4'-propionyl-megalomycin A. 7.3.72 as 022828 A61k-31/71, C12d-9/14, C07h-17/08 (17.8.79) KYOWA HAKKO KOGYO CO LTD. (11pp)(J48091281)

ASAH D16 14229V/08 =J7 9023-998
Antibiotic 156-BI - effective against gram-positive and negative bacteria, and produced from Streptomyces microorganisms
ASAHI CHEMICAL IND KK 03.03.72-JA-021542
*B04 (17.08.79) *J48088-286 A61k-35/74 +C07g-11 C12d-09/14*

Antibiotic, 156-B1 (I) was produced from Streptomyces No 156 (FERM-P 707) a new isolate, aerobically cultured in a medium contg. C and N sources and mineral salts at 25-30° for 2-4 days. (I) was adsorbed on Amberlite IRC-5 50 (H type) from the culture filtrate and eluted with dil HCl. Active fractions were collected, neutralised with IR -45 (OH type), passed through an active C column, and concd. under reduced press. (I) was extd. from the concentrate with MeOH. (I)-HCl was obtd. by addn. of the extract into 10 times vol. of EtOH and further purified by column chromagotraphy of cellulose powder and Sephadex LH 20,.

(I) was a H_2O-sol. basic, white powder with mol. formula of $C_{16}H_29N_6O_7Cl_2$ and mol. wt. of 473. (I) was sol. in H_2O and MeOH, hardly sol. in EtOH, and insol. in other org. solvents, unstable, in alkali but stable in acid R_f values on paper chromatography were 0.39 (n-PrOH:pyridine:HOAc:H_2O-10:15:3:12) and 0.29 (n-BuOH:pyridine:HOAc:H_2O=10:15:3:12). 3.3.72 as 021542 C12d-9/14; A61k-35/74 C07g-11/00 (17.8.79) ASAHI CHEM IND CO LTD (6pp) (J48088286)

AJIN D16 04657X/03 =J7 9024-471
Elastin-decomposing enzyme production - by rifampicin-resistant Flavobacterium strain
AJINOMOTO KK 07.02.74-JA-014878
*(21.08.79) *J50107-184 +C12d-13/10*

Elastin-decompsg. enzymes are produced by culturing aerobically rifamycin-resistant strains of Flavobacterium. The enzymes are useful as meat softener and depilatory.

In an example, Flavobacterium species R-102-87 was cultured aerobically at 30° for 24 hrs. in a medium contg. casein 3, glucose 4, corn steep liquor 0.2, K_2HPO_4 0.1 $MgSO_4$ 0.01, and $FeSO_4$ 0.002%. The culture was centrifuged. The filtrate contd. the enzyme activity at 435 units/ml. 7.2.74 as 014878 C12d-13/10 (21.8.79) AJINOMOTO KK (3pp)(J50107184)

TOKU D16 74917X/40 =J7 9024-473
L-tartaric acid prepd from cis-epoxysuccinic acid - by treating with ring opening enxyme
TOKUYAMA SODA KK 14.02.75-JA-017973
*E17 (D13) (21.08.79) *J51095-184 C12d-01/02*

L-tartaric acid is prepd. by treating cis-epoxysuccinic acid or its deriv. with the enzymic products of a microorganism, which belongs to Nocarida and is capable of roducing enzyme that can ring-open the epoxy ring of epxy-succinic acid, and recovering formed L-tartaric acid om the liq. culture medium.

The microorganism used is ESI-T stock and is named ocardia tartaricans nov. sp. As the enzymic prod. ultured liq. of the stock, its living body, mashed prod. f its body, extract of its body, crude enzyme recovered om above, refined enzyme, etc. can be applied, and sually the cultured liq. as it is can show sufficient activi- y.

The treatment is practiced by aerobic liq. culture in atural culture medium such as beef extract, etc. or synhetic culture medium contg. carbon source, nitrogen source, inorganic salts, etc. of pH 5.5-11. 14.2.75 as 017973 12c-1/02 (21.8.79) TOKUYAMA SODA KK (7pp) J51095184)

RIY D16 11733Y/07 =J7 9024-474
lutathione and nicotinamide-adenine-dinucleotide (phosphate) ecovery - from hot water extract of yeast
ORIENTAL YEAST KK (ORIE) 19.06.75-JA-073764
_B02 (B05) (21.08.79) *J51151-318 +C12d-13_

The yeast is dispersed in hot water at 80-85°C for 5-10 mins. and then cooled rapidly. Removal of the organism yields the hot water extract contg. glutathione, NAD and NADP. The extract is mixed with Cu_2O under H_2SO_4 conditions to give ppte. of glutathione, which is recovered and subjected to Cu-elimination procedure to yield glutathione crystals. The supernatant soln. is passed through a column of strongly acidic cation exchange resin equilibrated with HCl under acidic conditions at pH 1. NAD and NADP are absorbed. The Cu ions are eluted with 0.1-0.5 N HCl, and NAD and NADP are eluted with an acid or alkali such as AcOH or AcONa.

When the supernatant soln. is passed through the column at pH 1, the Cu ions are insufficiently sepd. from NAD and NADP. The resulting NAD and NADP contain very little Cu ion, which may be purified using a combination of slightly basic anion exchange resin and strongly acidic cation exchange resin.

The yeast is bread yeast, beer yeast, yeast of pulp waste water, petroleum yeast etc. 19.6.75 as 073764 C12d-13/00 (21.8.79) ORIENTAL YEAST IND (3pp) (J51151318)

AJIN D16 18811Y/11 =J7 9024-475
Refining glutamic acid by electrodialysis - ands treating with a small amt. of active carbon, giving a colourless soln.
AJINOMOTO KK 18.07.75-JA-088072
_B05 E16 J03 (J01) (21.08.79) *J52012-988 C12d-13/06_

The glutamic acid-contg. liq. is obtd. by fermentation using ion exchange film. The refining process comprises sepg. the initial dialysed soln., obtd. by electrodialysing the liq. using 2-20% of the theoretical electric current required for electrodialysing with glutamic acid ions; continuing the electrodialysis; and recovering glutamic acid.

Even pigments which are normally difficult to remove are sepd. 18.7.75 as 088072 C12d-13/06 (21.8.79) AJINOMOTO KK (5pp)(J52012988)

KYOW D16 60607V/34 =J7 9024-476
Erythronolide B prodn. - by culturing using Micromonospora inositola MK-41
KYOWA FERMENTATION KK 05.09.72-JA-088345
_B04 (21.08.79) *J49042-889 +C12d-09/14_

Erythrolide B (I), aglycone of Erythromycin B was produced by Micromonospora inositola MK-41 (ATCC 21,773 FERM-P 1317).

In an example, seed culture (900 ml) of M. inositola MK-41 was planted to 15 l. media (pH 7.2) contg. sucrose 2.0. yeast ext. 0.5, corn steep liquor 0.5. K_2HPO_4 0.05, KCl 0.03, and $CaCO_3$ 0.1% and cultured aerobically at 30 for 5 days. I was extd. with $CHCl_3$ from the culture liq. at pH 9.5. H_2O-sol. substances were removed from the concd. ext. shaking the ext. with H_2O at pH 4.0, . The $CHCl_3$ layer was concd. and left overnight; crude crystal of I was obtd. at 0.5 g I was recrystd. with EtOAc; 0.3g I (m.p. 227-8°). 5.9.72 as 088345 C12d-9/14 (21.8.79) KYOWA FERMENTATION IND (5pp)(J49042889)

KYOW D16 43112U/31 =J7 9024-477
Megalomycins prodn - by fermentation
KYOWA HAKKO KOGYO 11.09.72-JA-090478
_B03 (21.08.79) *DT2301-080 C12d-09/14_

Megalomycins (a known gp. of antibiotics with broad spectrum antibacterial activity) are produced simply and inexpensively by cultivating micromonospora inositola ATCC 21773 in a nutrient medium and isolating the megalomycins accumulated in the medium. The megalomycins can be isolated by extn. with organic solvents and other conventional procedures in the form of a powder.

Column chromatography of this on alumina followed by countercurrent distribution gives megalomycin C_2, B and A. Megalomycin B can be split into 2 components of which one is the new cpd. 4'-propionyl-megalomycin A. 11.9.72 as 090478 C12d-9/14 (21.8.79) KYOWA HAKKO KOGYO CO LTD (6pp)(J49047591)

KAYA D16 53254X/28 =J7 9024-479
Antibiotic No.K-73 produced - by culturing Streptomyces tanasiensis K-73
KAYAKU ANTIBIOTIC RES 21.11.74-JA-134770
_B04 (21.08.79) *J51061-695 C07g-11 C12d-09/14 +A61k-35/74_

A normal or mutant strain of Streptomyces tanasiensis K-73 is cultured using nutrient broth contg. N sources, C sources, growth accelerators etc. at pH 5.5-8 and 25-35°C under submerged aeration with agitation for 24-96 hrs. 21.11.74 as 134770 C12d-9/14; A61k-35/74; C07g-11/00 (21.8.79) KAYAKU ANTIBIO RES (5pp)(J51061695)

BEKI ★ D16 67505B/37 ★SU -636-252
Microorganisms aerobic culture unit - has solid partitions with overflow pipes and coaxial air feed tube with swirlers to increase biomass yield
BELORUSS KIROV TECHN INS 15.03.77-SU-464388
_(15.12.78) C12b-01/10_

The yield of microbial biomass from a microorganisms culture unit is increased by using mixt. contg. solid partitions, and the air feeding tube along its whole height.

The top of each section comprises an air vortex inducer, while the lower end of the tube has a perforated part clear of the surmounting horizontal ring tray which exhibits an inner dia. flange.

Vaitekhovich P.E., Bortnikov I.I., Perminov E.V., Bul. 45/5.12.78 15.3.77 as 464388 (3pp89)

PLAN= ★ D16 67506B/37 ★SU -636-253
Microbial culture nutrient gas disperser - has two perforated discs connected to electromagnet by elastic shock absorbing linkages
PLANT PROTECT MICRO 17.06.77-SU-499651
_(10.12.78) C12b-01/14_

The efficiency of gas dispersing in culture fluid is enhanced by an additional perforated disc below the main disc, and by the solenoid contg. an insulation coat. The solenoid is mounted between the discs to which it is connected by elastic shock absorbers.

After tank filling with the nutrient, inoculant and following air admission, the controlled a.c. supply is connected to the solenoid. As a result, the discs are vibrated ensuring the break up of bubbles, and thus increasing both the contact area and residence time of gas in the nutrient medium.

Chupin A.A., Kozlov A.I., Chernukha V.N., et al. Bul. 45/5.12.78 17.6.77 as 499651 (2pp89)

AAZM= ★ D16 67508B/37 ★SU -636-255
Arthrobotrys compacta mecht 302 - used as producer of high activity bacterial fibrinolytic enzymes for medical use
AS AZERB MICROBIOLO 16.07.75-SU-157850
_(10.12.78) C12d-13/10_

On a wart agar colony growth is moderate with a loose web-like appearance with fragile mycelial strands. The entire agar surface is covered in ten days, the edges being grey but later developing a rose-coloured metabolite which diffuses through the thickness of the agar.

A delicate aroma is developed.

Mekhtieva N.A., Rasi-zade T.T., Kulieva E.A., Bul. 45/5.12.78 16.7.75 as 157850 (2pp314)

ABBO= ★ D16 67509B/37 ★SU -636-256

Sparkling fruit wine concentrate prodn. - includes ageing mixt. contg. specified black berry extract, beet sugar and apple spirit

AS BELO BOTANY EXPT 08.07.77-SU-505366
(10.12.78) C12g-01/06

The concentrate for the prodn. of sparkling wines, pref. apple wines is prefd. by adding sugar to a biologically active substrate comprising extract of rowan tree berries, adding apple spirit ascorbic acid ageing.

The resulting sparkling wine has high nutrient value.

Vecher A.S., Yurchenko L.A., Romanovets E.S. et al. Bul. 45/5.12.78 8.7.77 as 505366 (2pp314)

ASBI= ★ D16 67510B/37 ★SU -636-257

Prodn. of brandy spirit maturation accelerator - including comminuting oak chips in presence of acid and extracting with a lipophilic solvent

AS USSR BIOCHEM 08.07.77-SU-505367
(10.12.78) C12h-01/22

Oak chips used as a maturation accelerator for cognacs and other similar drinks, are treated by (a) grinding the chips to 1-100 u size whilst simultanesouly treating the wood with acid, (b) extracting the prod. with a lipophyllic solvent, (c) neutralising the wood, and (d) heat treating it.

The method accelerates the build-up of lignin oxidn. prods. in the oak and their transfer to the drink prod.

Egorov I.A., Egofarova R.Kh., Pisarnitskii A.F. et al Bul. 45/5.12.78 8.7.77 as 505367 (2pp314)

KIHE= ★ D16 67511B/37 ★SU -636-258

Colorimetric measurement of amidase activity in biological material - using phenol penta:cyano-nitrosyl-ferrate and hypochlorite salts in aq. acetone as colour reagent, used in medical diagnosis

KIEV HEMATOLO BLOOD 16.03.76-SU-335347
B04 J04 (10.12.78) C12k-01

The amidase activity of biological materials is measured by (a) forming a mixt. of sample material, substrate and buffer, (b) incubating, (c) adding an aq. acetone soln. of phenol, Na nitroprusside and K hypochlorite to colour the sample, (d) ageing the mixt. at 37-38 °C for 30-40 mins. and (e) colorimetrically measuring the sample using the 630-640 nm line.

The method is quick and is more accurate than prior methods.

Magarlamov A.G., Zaikin A.A., Belyaeva L.V., Bul. 45/5.12.78 16.3.76 as 335347 (2pp314)

ORCH= ★ D16 67512B/37 ★SU -636-259

Saccharomyces vini yeast strain - used for making fruit and berry wine

ORCHARD VINE WINE 24.01.77-SU-446930
(10.12.78) C12g-01 C12k-01/02

The cell size in a 2-day growth on a wort-agar is 5.7-6.5 u; the cell shape is predominantly ellipsoidal and reproduction is by budding. On an organic wort-agar the colonies are circular, smooth and convexed; they are white and achieve a 20 day dia. of 2.5-3.0 cm using typical juice, a dense ppt. is formed which on stirring forms a weak suspn. which quickly settles.

Mosiashvili G.I., Vashakmadze N.S., Mumladze L.M. et al. Bul. 45/5.12.78 24.1.77 as 446930 (2pp314)

ORCH= ★ D16 67513B/37 ★SU -636-260

Saccharomyces vini yeast strain - is used to produce fruit or berry wine e.g. plum wine

ORCHARD VINE WINE 03.02.77-SU-452159
(10.12.78) C12g-01 C12k-01/02

The cell size of a two-day wort-agar culture is 5.7-6.5μ; the cell shape is predominantly ellipsoidal and propagation is by budding. On an organic wort-agar, round, smooth, convexed colonies having a dia. 2.5 x 3.0 cm and white in colour are formed in 20 days. Alcohol yield is 0.2% higher than with industrial strains.

Mosiashvili G.I., Vashakmadze N.S., Mumladze L.M. et al. Bul. 45/5.12.78 3.2.77 as 452159 (2pp314)

ORCH= ★ D16 67514B/37 ★SU -636-261

Fruit, esp. apple, wine prodn. - using apple Saccharomyces vini yeast strain

ORCHARD VINE WINE 21.02.77-SU-457201
(10.12.78) C12g-01 C12k-01/02

The cell size of the yeast strain on a two-day wort-agar culture is 5.7-6.5u; the cell shape is predominantly ellipsoidal and reproduction is by budding. On an org. wort-agar, smooth, circular, convex colonies are formed with a white colour and a 20-day dia. of 2.5 x 3.0 cm. On apple juice a dense sediment is formed which on stirring forms a weak suspension which quickly clears.

The strain assimiliates and ferments glucose, 1/3 raffiinose, galactose, maltose and saccharose, but not lactose It assimilates ethanol and glycerine, but not mannitol. The alcohol yield is 0.2% greater than that with other industrial strains.

Mosiashvili G.I., Vashakmadze N.S., Mumladze L.M. et al. Bul. 45/5.12.78 21.2.77 as 457201 (2pp314)

ALMI= ★ D16 67515B/37 ★SU -636-262

Pseudomonas nonliguefaciens 13 strain - used as producer of alpha-keto-glutaric and pyruvic acids

AS LATV MICROBIOLOG 15.03.77-SU-463735
E17 (10.12.78) C12d-13/06 C12k-01/02

The cells are single bacilli with spherical ends and measuring 2.0-3.5 x 0.6 u; they are mobile and Gram. negative. In a meat-peptone agar the colonies are grey-white, smooth, flat, lustrous and of uniform structure. The edges are corrugated. On liq. media a yellowy-green turbidity is developed.

Zarin D.G., Zarin N.V., Lielpetere A.Ya. et al. Bul. 45/5.12.78 15.3.77 as 463735 (3pp314)

BEKI ★ D16 67562B/37 ★SU -636-311

Prepn. of fibrous mass for fibre-board prodn. - includes pretreatment of wood pulp with fungal wood decomposing enzymes contg. industrial waste

BELORUSS KIROV TECHN INS 25.05.76-SU-365496
F09 (06.12.78) B29j-05 D21d-01

Fibrous mass, esp. for fibreboard prodn., is prepd. by treating a lignocellulosic material before grinding in a defibrator, with a soln. contg. enzymes.

The subsequent grinding is accelerated, and the quality of the fibreboards is improved by using culture liquid of wood-decomposing fungi producing enzymes cellulose and lacease. This liquor is an industrial waste.

Sukhaya T.V., Fedorov N.I., Staichenko N.I. et al. Bul. 45/5.12.78 25.5.76 as 365496 (4pp70)

BIOL- ★ D16 67779B/37 ★SW 7712-416

Rubbish composting appts. with rectangular composting container - has rotary screws moving backwards and forwards between opposite walls at bottom of container

BIOLOGISK AVFALLSHA 03.11.77-SW-012416
(11.06.79) C05f-09/02

CHDY- ★ D16 B/37 ★SW 7713-211

Starting microbiological prodn. of methane - by adding formic acid or readily soluble acid salts

CHEM DYNAMICS SWEDE 23.11.77-SW-013211
E17 (D15) (27.08.79) C02c-01/14 C12d-03/10

The microbiological process for the production of methane gas is started by adding formic acid or easily soluble salts of formic acid. 23.11.77 as 013211 (-pp1407)

TEPR- D16 59028A/33 =US 4165-643

Effervescent liquid sampling process - extracts from three levels into piping system filled with water, used esp. for beer during fermentation

TEPRAL (ECON-) 02.02.77-FR-004025
*R16 (28.08.79) *DT2758-061 G01n-01/16*

Beer fermentation prods., stored in a fermentation tank, are sampled and measured by using a main sampling conduit with branch conduits, each connected to the tank at different vertical points. The main sampling conduit is initially charged with water and a sample of beer is withdrawn through one sampling conduit at a time into the main conduit while maintaining the other conduits isolated from the main conduit. The sample is carried by the water to a measuring station.

The process used only a min. amt. of beer, avoids the rmation of foam and is fully automatic. The beer sample an be recycled. The sampling frequency can be adjusted a function of the fermentation advance. 22. 9. 77 as 35787 (7pp976)

ARH D16 08585A/05 =US 4166-004
acterial cell mass protein source for nutrition - prepd. by ultivating Methylomonas clarus strain on nutrient media contg. methanol (BE 25.1.78)
HOECHST AG 24.07.76-DT-633451
*C03 (D13) (28.08.79) *DT2633-451 +C12b-01*

Prepn. of a biomass comprises cultivating a strain of Mehylmonas clara ATCC 31226 under aerobic conditions in a nutrient medium contg. a nitrogen source, essential mineral salts and methanol at a concn. of 5-150(5-30) ppm by wt. of the nutrient medium, as sole carbon source.

The single cell protein obtd. has a low content of nucleic acids, fats and carbohydrates and is esp. used to prepare food and feed. 21. 7. 77 as 817870 (5pp982)

EAST ★ D16 67855B/37 ★US 4166-005
Prodn. of alpha-glycero:phosphate oxidase - by cultivation of Lactobacillaceae in medium contg. pyruvate and transducer
EASTMAN KODAK CO 03.01.78-US-866734 (10.12.76-US-749650)
B04 (28.08.79) C12d-13/10

α-Glycerophosphate oxidase (I) is obtd. by cultivating a member of the lactobacillaceae family in a nutrient medium contg. pyruvate and an inducer for (I).

Suitable strains include Streptococci cremoris, faecalis, salivarius or faecium, lactobacillus plantarum, casei, delbrueckii, fermentum, pentoaceticus, lactis, buchneri, or leichmannii, Leuconostoc mesenteroides and Pediscoccus cerevisiae, esp. Strep. faecalis ATCC 12755. The medium also pref. contains glucose. Suitable inducers include glycerol, 3-methoxy-1, 2-propanediol, 1, 3-propanediol, 1, 2-propanediol, 2, 3-butanediol, 1, 2, 4-butanetriol, monoacetin, 1-monopropionin, 1-monobutyrin, monostearin, mono-olein and trilaurin.

The medium pref. contains 1-10 g/l inducer and 0. 5-3 g/l pyruvate, together with inorganic salts and vitamins, and other nutrients including protein hydrolysates.

(I) is obtd. in high yields (> 1500 units/l). 3. 1. 78 as 866734 (10pp1248)

CORG ★ D16 67856B/37 ★US 4166-006
Enhancement of microbial growth - by incubation in nutrient medium with a grease contg. fluorocarbon or silicone oil peroxide, and filler
CORNING GLASS WORKS 10.11.77-US-850222
A97 (A26) (28.08.79) C12b-01/20

The growth of aerobic and facultative anaerobic microorganisms is hanced by incubating the organism in a liq. medium contg. a grease consisting of a fluorocarbon or silicone oil (I), an inert filler (II) in fine particulate form, and a peroxide cpd. (III). Alternatively the organism may be incubated on a solid nutrient medium which contains the above grease.

(III) decomposes at 0-75°; does not release toxic gases to either medium; does not react with grease; and is not toxic to the microorganisms at the concn. used.

Inexpensive method greatly increases the rate of growth of e.g. bacteria; does not require the use of shaking or bubbling techniques to ensure O_2-satn.; and allows petri dishes to be inverted during incubation (to prevent spoiling of the cultures with drops of condensed H_2O). 10. 11. 77 as 850222 (5pp478)

BECT D16 80578X/43 =US 4166-102
Stable carriers, esp for immunoadsorbents - comprising a support coated with a protective layer
BECTON DICKINSON CO (HUGJ) 07.04.75-US-565848 (31.05.77-US-802075)
*B04 R16 +R19 (28.08.79) *NL7603-439 G01n-33/16*

In a radioimmunoassay procedure a known amt. of labelled antigen and an unknown and unlabelled antigen are contacted with an immobilised immunoadsorbent having bound thereto antibodies specific to the antigen, to bind a portion of the labelled and unknown antigen, thereby forming a bound fraction and unbound fraction. The concn. of the unknown antigen is determined as a function of the bound and/or unbound fraction. The bound fraction is released from the immunoadsorbent by rinsing with an eluting medium

The improvement comprises flowing a mixt. of known amt. of labelled antigen and an unknown amt. of unlabelled antigen into conta ct with an antibody specific to the antigen the antibody being covalently coupled to a water insol. polymer (pref. dextram) which is chemically bound to a particulate substrate. 31. 3. 77 as 802075 Div. ex 4059685(7pp)

USNA ★ D16 67902B/37 ★US 4166-112
Bacterial larvicide contg. specific strain of Bacillus thuringiensis - for control of broad range of mosquito larvae species
US SEC OF NAVY 20.03.78-US-888083
C03 (28.08.79) A01n-15

A bacterial larvicide comprises a carrier and, as active ingredient, spores of the pure biological strain of Bacillus thuringiensis var WHO/CCBC 1897.

The larvi cide is used to control mosquito larvae, and, unlike prior strains of B. thuringiensis having too narrow a range of toxic effect, it is active against a broad range of species.

The active ingredient is the spores of the microorganism known as ONR-60A obtd. by screening clonal isolates from soil samples of known mosquito larval breeding sites. The larvicide is formulated as a buoyant colloidal suspension which stabilises just under the surface of the water to concentrate in the feeding zone of mosquito larvae. 20. 3. 78 as 888083(5pp476)

SQUI ★ D16 67905B/37 ★US 4166-118
Inhibiting growth of mycoplasma(s) - comprises administering chloro-hydroxy-quinoline with a carrier comprising aluminium mono:stearate, butylated hydroxy-anisole and peanut oil
SQUIBB E R & SONS INC 13.10.77-GB-042721
B04 C03 (C02) (28.08.79) A61k-31/47

Method of inhibiting the growth of mycroplasma comprises treating the mycoplasma species with chlorhydroxygunoline (I), The mycoplasma species include in partic. Actioleplasma laidlawii, M. synoviae, M. gallisepticum, M. bovigenitalium, M. bovirhinis, M. agalactiae, M. hyopneumoniae, M. hyorhinis, M. mycoides var. capri, M. mycoides var. mycoides, M. meloagridis, Iowa 695 cloned, Type 8 FB serotype and WRI 431/10 Serotype.

(I) may be used in the treatment of diseases caused by mycoplasmas e.g. mastitis in cattle, sheep or goats, and endometritis in a non-human animal. (I) is pref. administered to the mammalian host in an amt. of 1-100 mg/kg body wt./day. 2. 10. 78 as 947318 (3pp954)

STAD ★ D16 67913B/37 ★US 4166-135
Yeast prod. of uniform bland flavour - is prepd. by treating fresh yeast with oxygen at elevated temp.
STANDARD OIL CO (IND) 22.08.77-US-826858
(28.08.79) C12c-11/26

The colour and flavour of a yeast prod. is improved by oxygenating a slurry contg. 10-20 wt.% fresh yeast cells using a gas having an oxygen partial pressure of 0. 5-20 atmospheres, for 1-15 mins. at 80-100°C and pH 4-7.

The gas is e.g. air, enriched air, or pure oxygen, and the oxygen partial press. is 0. 5-2. 0 atmos. The pH of the treated slurry is pref. raised to 6. 8-7. 0, and the slurry is then spray-dried. The yeast is pref. candida utilis.

The prod. has a reproducible bland taste, with a slight sweet, mushroom and almond flavour and cocoa aroma. 22. 8. 77 as 826858(4pp955)

SLIT ★ D16 67917B/37 ★US 4166-141
Stabilisation of malt beverages - by passage over a fluidised bed of adsorbent particles
SCHLITZ J BREWING CO 15.08.77-US-824393
A97 (A14) (28.08.79) C12h-01/04

Malt beverages are stabilised as follows; (a) the beverage is passed upwards through a bed of adsorbent particles (I) of polyvinylpyrrolidone or silica gel at such a rate that the bed is fluidised and the haze forming substances (II) are adsorbed onto (I); (b) (I) are continuously removed from the upper portion of the fluidised bed and are treated with a material (III) capable of solubilising the adsorbed (II); (c) the regenerated (I) are continuously returned to the lower portion of the bed.

The (I) bed is contained in a vessel which has an upper portion with a larger cross sectional area than the lower portion, and the beverage is kept at a higher mass velocity in the lower portion than in the upper part.

Use of the fluidised bed gives increased adsorption efficiency and a more uniform and consistent treatment, and allows the regeneration and re-use of the relatively expensive adsorbent. 15.8.77 as 824393(4pp478)

EAST D16 42201A/24 =US 4166-763
Compsn. for analysing lactate in blood - contg. lactate oxidase pref. derived from Streptococcus faecalis, and a hydrogen peroxide detecting system
EASTMAN KODAK CO 10.12.76-US-749546
*B04 J04 R16 +P31 (04.09.79) *BE-861-713 G01n-31/14 +C07g-07/02*

Compsn. for assaying lactic acid or lactate comprises (a) a lactate oxidase which (i) is capable of effecting the prodn. of detectable H_2O_2; (ii) has a specific activity of $\geqslant 0.1 \mu$-moles lactate per minute per mg. of protein; (iii) is soluble in water; (iv) is catalase-free; and (v) has a K_m for lactate of $\geqslant 0.2$ mM; (b) a substance having peroxidative activity; and (c) a material that undergoes a detectable change in the presence of H_2O_2 and (b).

Pref. (a) is derived from Streptococcus faecalis ATCC 12755; pref. (b) is a peroxidase; and pref. (c) is an organic cpd. that undergoes a visible change, e.g. amines, diamines, phenols, aromatic acids, various dyes, etc. 10.12.76 as 749546. (11pp997)

GRAC D16 40690B/22 =US 4166-764
Fermentative prodn. of monordene - by cultivating Diheterospora chlamydosporia in a liq. medium
GRACE W R CO 01.02.78-US-874207
*B02 C02 (04.09.79) *BE-873-855 +C12d-13/02*

Monorden is produced by cultivating Diheterospora chlamydosporia or one of its mutants in a nutrient soln. contg. a source of C, N and mineral salts, pref. at 20-35°C for 2-15 days.

Monorden is also known as radicicol. The organism involved is a commonly available mould deposited as NRRL 11178. Pref. the monorden is isolated by solvent extraction from the medium. 1.2.78 as 874207. (3pp997)

CORG ★ D16 68018B/37 ★US 4166-765
Detection of Neisseria bacteria, esp. N. gonorrhoeae in a sample - by testing for an enzyme capable of reducing NAD and 1,2-propane:diol
CORNING GLASS WORKS 28.09.77-US-837366
B04 J04 (04.09.79) C12k-01/06

The presence of bacteria of the genus Neisseria in a fluid sample, can be detected by testing the sample for an enzyme capable of oxidising 1,2-propanediol and reducing NAD. The method comprises incubating a lysate of body fluid or exudate in the presence of 1,2-propanediol and NAD, and determining whether the cofactor NAD is reduced to NADH by monitoring any change in molar concn. of NADH. Spectrophotometrically or pref. fluorometrically.

The test is useful for detecting esp. N. gonorrhoeae, it permits the detection in a sample contg. as few as 2×10^2 organisms. 28.9.77 as 837366. (5pp957)

WISC ★ D16 68019B/37 ★US 4166-766
Quantitative assay of alkaline phosphatase isoenzyme in serum - used to indicate the presence of cancer
WISCONSIN ALU RES FOUND 09.08.76-US-712879
B04 J04 R16 (04.09.79) G01n-33/16

Method of assay for fast electrophoretic alkaline phosphatase isoenzyme variant in serum, comprises subjecting the serum to ion exchange chromatography to separate fast isoenzyme variant mobility from slow variant, without prior removal of protein and measuring the activity of the sepd. fast isoenzyme variant.

The determined activity of the fast variant can be used to indicate the presence of cancer and the direction of cancer cure. 9.8.76 as 712879. (4pp957)

DAIN D16 72820Y/41 =US 4166-76
Enzyme immunoassay or radioimmunoassay antibod immobilisation - by chemical linking to bacterial or yeast cell wall
DAINIPPON PHARM KK 25.11.76-JA-141879 (25.03.76-JA 033333)
*B04 K08 R16 (04.09.79) *DT2713-369 G01n-31 G01n-31/1 +A61k-39*

Insolubilised antibody for an enzyme immunoassay or radio immunoassay, has characteristic IR absorption at about 1040, 1540 and 1640 cm^{-1}, comprises the antibody chemically bonded to cell wall debris of globular or rod-like yeasts (esp. of Saccharomyces, Pichia or Schizo saccharomyces genus) or bacteria (esp. of Streptococcus, Staphylococcus, Micrococcus, Lactobacillus, Bacillus, Escherichia or Achromobacter genus).

The insolubilised antibody does not inhibit antigen-antibody reaction; has a suitable specific gravity, gives an antigen-antibody complex that can easily be sepd. by low-speed centrifugation or by filtration; and the antibody does not adhere to the walls of e.g., pipettes. 16.3.77 as 778244. (19pp997)

MONS ★ D16 68020B/37 ★US 4166-768
Apparatus for continuous cell culture - has filter mounted on rotating shaft supported in stationary sleeve
MONSANTO CO 14.11.77-US-850987
(04.09.79) C12k-01/10

Appts. for the continuous suspension culturing of cells includes a hollow flask having a top opening. An elongate hollow shaft and stationary sleeve assembly are positioned within the flask, the shaft being journalled for axial rotation in the sleeve assembly. The shaft is in fluid communication with the top opening and is supported downwardly with no lower bearing.

A filter is supported downwardly from the shaft without any lower bearing or moving seals between the filter unit and any filter support which could contact the cell suspension. The filter rotates with the shaft. The filter has a cavity communicating with the interior of the shaft, and a porous peripheral surface having a pore size smaller than the cells to be cultured or the carrier particles upon which the cells are attached. The pores however are sufficiently large to permit permeation of the fluid into the cavity.

Appts. can be used for suspension culturing of mammalian cells. Fresh medium can be added and spent medium sepd. from the growing cells by filtration on a (semi)-continuous basis. 14.11.77 as 850987. (7pp295)

ANDE/ ★ D16 68058B/37 ★US 4166-835
Observation capsule in organic digester tank - is mounted beneath rotatable roof controlled from within capsule
ANDERSON J 01.07.77-US-812145 (11.07.75-US-595176)
(04.09.79) C05f-09/02 C12b-01

An organic digester includes a tank with a circular removable roof. An observation capsule depends from the roof at a radially displaced position. The capsule walls are sealingly attached to the roof and similarly the capsule floor is sealingly attached to the walls. A window is incorporated in the capsule and there is access from the roof.

The roof is rotatable, pref. driven by an electric motor manually controlled from within the capsule. Pref. there is a swivelling fluid nozzle which may direct a pressurised jet of water against the internal walls of the tank.

The observation capsule allows inspection of the internal tank walls and washing thereof without exposing an operator to possibly noxious gases emanating from the waste. 1.7.77 as 812145. Div.ex 4046551. (11pp295)

See Also

D13 GB 1552420
D15 GB 1552353
D17 J7 9024472
D13 J7 9022907
D15 SU 636254
D13 J7 9024454
D15 SU 637333

D17: SUGAR; STARCH

CUIN- ★ D17 B/37 ★BR 7800-532
Cane sugar product deterioration prevention
CUBA MIN IND 27.01.78-BR-000532
(21.08.79) C13d-01

UNEX- ★ D17 B/37 ★BR 7900-593
Diacetone alcohol prepn.
UNION EXPLOSIV RIO 30.01.78-ES-466470
(28.08.79) C07c-49/17 30.1.79 as 000593

ALFA D17 82169A/46 =GB 1552-569
Starch and by/products prepn. from corn - by maceration and sepn. of fractions, with vapour recycled from driers to evaporator
ALFA-LAVAL AB 16.05.77-SW-005679
*+Q76 (12.09.79) *BE-867-052 C13l-01/02*

Starch and by-products are produced from maize by steeping the maize in water in the presence of SO_2 to produce a concentrate which is separated from the maize, drying the maize using an air flow, and using at least part of the air flow as a heater in one stage in a multi-stage evaporator to remove water from the concentrate.

The steeped maize is pref. divided into wet germ, and wet fibre fractions, and a gluten suspension. The air flow used to dry the maize is pref. at a temp. of ≥100°C. 10.4.78 as 014008 (3pp1376).

STAL D17 56856S/35 =J7 9024-038
Starch semiester amine salt for hydrophobicf
STALEY A E MFG CO 19.02.70-US-012859
*A87 F06 (17.08.79) *BE-763-169 D06m-15/04*

The aminated salt of a hemiester of starch and a dicarboxylic acid chosen from citracone, 4-cyclo-hexane-1,2-dicarboxylic acid, a phthalic acid and succinic or maleic acids. The salt is exempt from active Zerewitinoff H atoms, the starch has a degree of substituion of 0.005-0.1. and the salts have a pH of 4-7 and a humidity of ≥ 4%.

The salts are used in sizing compsns. for hydrophobic fibres e.g. nylon, polyester, acrylonitrile fibres. 19.2.74 as 007914 (clg. 19.2.70-US-012859) C06m-15/04 (17.8.79) STALEY MFG; CO. A.E. (9pp)(J46002194)

NISS- D17 81998X/44 =J7 9024-472
continuously isomerizing glucose to fructose - at a high conversion rate, using glucose isomerase
NISSHIN SUGAR MFG 11.03.75-JA-028690
*E13 (D16) (21.08.79) *J51104-046 +C12d-13*

CO_2 is bubbled into a mixt. consisting of glucose-isomerase contg. microbial cells and magnesium salt (basic magnesium carbonate, magnesium phosphate, magnesium sulphate, magnesium chloride or magnesium hydroxide). To the mixt. a suspension of calcium hydroxide is added slowly to give a fixed glucose-isomerase. Glucose soln. is treated continuously with the fixed glocose isomerase.

The specific activity of glucose -isomerase is high. The penetration of glucose is good 50% glucose soln. is converted to fructose at a high conversion rate. 11.3.75 as 028690 C12d-13/00(21.8.79) NISSHIN SUGAR MFG (7pp) (J51104046)

FOOD= ★ D17 67387B/37 ★SU -636-016
Viscous fluids mixer esp. for polysaccharide and starch mfr. - has flow swirlers in inlet disc and axial recessed deflector producing turbulent flow
FOOD IND STARCH PRO 30.06.76-SU-381283
J02 (15.12.78) B01f-05/18

A mixer, partic. for use in producing polysaccharides and modified starches, comprises a horizontal housing with an end inlet connection and an annular manifold with radial nozzles. To improve mixing efficiency by providing a turbulent flow, a disc in the inlet has ports in which swirlers are mounted and a deflector is mounted on the housing axis.

The deflector comprises a cylinder with dished recesses located opposite the nozzles. One end of the deflector is connected by rods with the disc, and the other carries plates curved along a helical line. The nozzles are movable in the axial direction.

Karpenko R.M., Karpenko S.S., Gorbatov V.M. et al. Bul. 45/5.12.78 30.6.76 as 381283 (3pp1358)

SUGA= ★ D17 67399B/37 ★SU -636-034
Centrifuge for sepn. of solids suspended in viscous fluids - has porous shell in casing concentric with rotor forming annular chamber, useful to separate massecuite suspension in refining sugar
SUGAR IND RES 15.03.77-SU-464389
J01 P41 (06.12.78) B04b-03

The centrifuge comprises perf. rotor and casing with segregator and steam inlet.

To speed up removal of outflow from the centrifuge casing and thus to prevent mixing, there is a porous shell in the casing concentric with the rotor. This forms an annular chamber with the casing wall to feed the steam to the shell. There is an annular perf. tube above the top of the rotor. Its apertures are directed towards the side of the rotor.

Tereshin B.N., Rodionov V.I., Mikhalchuk G.G. et al. Bul. 45/5.12.78 15.3.77 as 464389 (3pp18)

CEME= ★ D17 67594B/37 ★SU -636-455
Loading device for shaft furnace - has receiving funnel with annular chamber round it connected to outgoing gas pipeline, used in soda, sugar etc. prodn.
CEMENT AUTOCLAVE 04.01.77-SU-440423
E34 J09 Q77 (10.12.78) F27b-01/20

The mechanism comprises a receiving funnel, two-valve lock, inter-valve tube and outgoing gas pipeline.

For a better seal, it has an annular chamber round the receiving funnel, connected to the outgoing gas pipeline and the receiving funnel is made with slits connecting it to the cavity of the annula chamber.

In operation, the departing gases are sucked by the smoke suction system and ejected to atmosphere along the pipeline. Some of the furnace gases go into the annulare chamber and through the slits into the receiving bunker. This forms a gas curtain preventing penetration of atmospheric air into the shaft so that the concn. of furnace gases can be increased.

Kull A.Yu., Ryani A.E., Bul. 45/5.12.78 4.1.77 as 440423 (2pp18)

LENI ★ D17 67615B/37 ★SU -636-529
Quantitative determn. of 6-desoxy-hexose cpds. in biological material - includes acidification of sample with sulphuric acid and gas chromatographic estimation of 5-methyl furfurol
LENINGRAD FORESTRY ACAD 06.01.77-SU-442984
B04 E17 J04 R16 (06.12.78) G01n-31/08

6-deisoxyhexoses (I) e.g. L-ramnose, and L-fructose, in vegetable, animal and bacterial samples are determined by gas chromatography.

The method involves acidification of an aq. soln. of a monosaccharide with conc. H_2SO_4 to pH=1-2. This soln. is then admitted to the evaporator of the gas chromatograph. In the evaporator, which acts as micro-reactor, a dehydration of (I) with formation of 5-methylfurfurol (II) takes place at 180°C in an acid medium. (II) formed together with a carrier gas enters a chromatographic column of a chromatograph which ensures its quantitative determination. The amt. of (I) is calculated from the amt. of (II) found by analysis.

The method is accurate and rapid (analysis time is 20 mins.)

Aleksandrova G.F., Khokin Yu.I., Bul. 45/5.12.78 6.1.77 as 442984 (4pp48)

MOFO= ★ D17 67617B/37 ★SU -636-531
Colloid content in sugar-contg. liquids determination - includes pptn. with water-soluble anionite based on amino ester of methacrylic acid, used in sugar quality control
MOSC FOOD IND TECH 08.06.77-SU-493741
A91 R16 (A14 A97) (10.12.78) C13d-03/14 G01n-33/02

Colloids content in sugar-contg. juices and molasses in sugar factories, is determined by mixing a soln. sample with an agent effecting precipitation of the colloids, sepg. the ppte., drying and weighting.

The process is accelerated and its accuracy is improved by using as a colloid-precipitating agent a soln. of a strongly basic anionite derived fron amino ester of methacrylic acid. After the removal of the ppte., the residual content of the anionite in the soln. is determined photometrically. The decrease, compared with the original anionite content, corresponds to the colloids content.

Bugaenko I.F., Lapkin A.I., Bul. 45/5.12.78 8.6.77 as 493741 (2pp70)

See Also

D13 SU 637089

D18: SKINS; HIDES; LEATHER; TOBACCO

MAQU- ★ D18 B/37 ★BR 7800-479
Leather-working machine
MAQUINAS KLEIN S/A 26.01.78-BR-000479
(21.08.79) C14b-17/14

FARH ★ D18 66426B/37 ★DT 2808-157
Water-dispersible fluorocarbon resin preparations - used for dirt-repellent treatment of textiles, leather, paper and synthetic fibres
HOECHST AG 25.02.78-DT-808157
A87 E17 F06 (A25 A82 A97 E16) (06.09.79) B01f-17/22 C14c-09 D06m-13/40 D06m-15/68 D21h-01/48

Dispersible fluorocarbon resin prepns. consist of (a) 1-10 pts. cpd. of formula $RCONR^1CH_2CH_2OH$, (in which R is 1-22C alkyl or alkenyl; R^1 is H or hydroxyethyl), (b) 1-10 pts. cpd. of formula $R-(CH_2CH_2O)_x-OH$, (in which R is 8-22C alkyl or alkenyl; x is 15-50, pref. 22-30), and (c) 1 pt. fluorocarbon resin consisting of ⩾1 fluorinated cpd. with ⩾1 benzene ring, with (1) 1-2 CO substit. gps. attached through O or N to a 2-20C perfluoroalkyl or perfluoralkyleneoxy-perfluoralkyl gp., at least two benzene rings being present if each contains ≯1 such gp., and (2) further CO substit. gp. in o-posn. to those in (1) and not exceeding them in number, attached through O and an esterifying divalent 1-5C alkylene gp. to (a) at least one similarly-substd. benzene ring, (b) 1-5C alkyl opt. substd. with OH, halogen or an end epoxy ring, or (c) two such alkyl gps. linked by O.

The paste prepns. are stable during storage, and readily converted to stable aq. dispersions ready for use by addn. of hot water. 25.2.78 as 808157(14pp195)

HAUN ★ D18 66487B/37 ★DT 2809-160
Combination cigarette filter transfer device - with distance lug on leading end of holder for accurate cavity recess
HAUNI-WERKE KORBER KG 03.03.78-DT-809160 (00.00.75-DT-534666)
P15 (06.09.79) A24c-05/50

The Parent Patent described a machine for the mfr. of combination filters for cigarettes which include a cavity recess. The holders of the transfer conveyor which deposit the filter plug gps. one after another in the longitudinal axis are provided at their leading ends with a distance lug, representing a dummy plug, and at their lagging end with a stop.

This ensures an exact definition of a recess even when the lengths of all other filter components fluctuate. The axial extent of a recess can never drop below a set minimum. 3.3.78 as 809160 Add to 2534666 (11pp39)

HOND/ ★ D18 67300B/37 ★J7 9024-000
Mfr. of cigarettes - contg. some partly carbonised tobacco leaves, partic. at the end, to facilitate lighting and remove harmful components
HONDA T 18.08.66-JA-054062
P15 (17.08.79) A24d-01

In the mfr. of a cigarette, tabacco leaves are carbonised to a degree of 50% and the carbonised leaves are mixed with normal tabacco leaves in a mixt. ratio of 50% to form a cigarette. The tabacco leaves of the top portion of the cigarettes is almost carbonised to a degree of 80% and serves to remove harmful component of the tabacco and to allow easy lighting of the cigarette.

Regulation of the carbonisation is carried out using a carbonising device in which the amt. and time of heating is adjusted. According to the carbonisation of the tabacco leaves, harmful substances such as nicotine and tall is removed. 18.8.76 as 054062 A24d-1/00 (17.8.79)
TAKAO HONDA (2pp84)

FORE= ★ D18 67517B/37 ★SU -636-264
Leather greasing compsn. - consists of sulphonate fat and tall oil fatty acids
FOREST CHEM IND INS (GOLE=) 27.10.76-SU-414352
(10.12.78) C14c-09/02

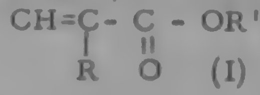
Compsn. for greasing leather comprises (by wt.): 50-75% sulphonated fat and 25-50% tall oil fatty acids (I) as non-emulsifying fat component.

Inclusion of (I) improves the quality of the treated leather. (I) has an iodemetric scale colour of up to 50 an acid no. of 175-180 mg. KOH/g and contains 2.5-3.0% resin acids; it has no odour.

Golovin A.I., Uzlov G.A., Dubinovskii M.Z. et al.
Bul. 45/5.12.78 27.10.76 as 414352 (2pp314)

ASPH= ★ D18 67518B/37 ★SU -636-265
Finishing compsn. for furs etc. - contg. acrylic monomer soln. as hydrophobising agent, used in sheepskin etc. treatment
AS USSR PHYS CHEM 01.12.76-SU-425837
A97 (A14) (10.12.78) C14c-11

Finishing treatment for sheepskin and fur articles comprises treating with a hydrophobising agent comprising a 1-3 % soln. of an acrylic monomer (I) of formula (I):



$$CH{=}\underset{R}{\underset{|}{C}}-\underset{O}{\underset{\|}{C}}-OR'R'' \quad (I)$$

where R = H or $-CH_3$; R' = $-C_nH_{2n}$ where n = 1-8; R'' = H, $-\underbrace{CH-CH_2}_{O}$; or -Si (OYm) $(CH_3)_{3-m}$ where m = 1,2 or 3; Y = $-C_2H_5$ or $-Si(CH_3)_3$, or mixts. of these monomers.

The article is then dried at 45-60 °C for 30-60 mins. and laid out for 1-2 days. The use of (I) improves the hydrophobic props. of the final article.

Morozova E.M., Eliseeva V.I., Travnikova L.A., et al.
Bul. 45/5.12.78 1.12.76 as 425837 (2pp314)

TYRE/ ★ D18 67799B/37 ★US 4165-618
Tobacco or food treatment by liquid cryogen - with recovery after treatment of liquid and vapour
TYREE L 24.04.78-US-899410
Q75 (D14) (28.08.79) F25d-17/02

A prod. is treated by immersion in a liq. cryogen at near equilibrium conditions. A processing chamber is loaded with the prod. and purged by cryogen vapour at superatmospheric pressure. The liq. cryogen is then transferred to the processing chamber from a holding chamber by a compressor which returns the liq. to the holding chamber after prod. treatment.

Vapour remaining in the processing chamber is removed by sequentially connecting the processing chamber to a set of three receivers maintained at different pressures. The holding chamber is automatically supplied with make-up cryogen to compensate for cryogen consumed during prod. treatment.

Tobacco leaves are exposed to the cryogenic liq., e.g. CO_2, which fills the prod. pores. Subsequently the cryog-

n expands to stretch the pores and physically expands the
rod. The cryogenic liq. is reused and becomes satd. wi-
h substances leached from the tobacco and thus minimis-
s further leaching of tobaccco components. 24.4.78 as
899410 (7pp295)

WIGG D18 86637Y/49 =US 4166-090
ibrous element e.g. cigarette filter formed from fibre suspension -
ed through screen having pressure differential applied to form skin
round core
WIGGINS TEAPE LTD 02.08.76-GB-032180
*A88 F09 P15 +P64 (28.08.79) *BE-857-378 B28b-01/26*

A fibrous element, partic. a cigarette filter rod, is form-
ed by continuously injecting an aq. fibre dispersion into an
elongate closed foraminous former moving through a fluid
extractor at a rate such that some fibres build up a continuous crust on the former inner surface while others pack
inside the crust to form an integral core.

The crust stiffens the rod and is of greater density than the core. The rod is pref. dried by sucking air into and through the rod or by using a radio frequency dryer, and the rod is then cut into lengths. Dispersion consistency is pref. not greater than 3% and the rate of injection velocity to former speed is at least 5:1. 29.7.77 as 820388(13pp)

See Also

D13 US 4165752 D13 US 4166869

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL ; TOILET PREPARATIONS

BRIM D21 86492Y/48 =DS 2727-848
Hair fixation using fluorinated terpolymer - comprising fluorinated and non-fluorinated acrylate type monomers
BRISTOL MYERS CO (CLAI) 29.06.76-US-701006
*A96 (A14 A25) (06.09.79) *US4059-688 A61k-07/11*

Hair fixer comprises a carrier; a mixt. contg. (a) F-free polymer which produces films, (0.5-10 wt.%), and (b) terpolymer contg. fluoroalkyl gps. (0.01-10 wt.%); and the usual additives. Component (b) is obtd. from ≥1 ester of formula $CH_2=C(R_1)COO(CH_2)_2(CF_2)nF$, (60-85 wt.%); ester of formula $CH_2=C(R_2)CO(OCH_2CH_2)mOC_6H_4(R_3)$-, (10-30 wt.%) and ester of formula $CH_2=C(R_4)COO-R_5-NR_6R_7$, their N-oxides or quat. salts (2-10 wt.%).

In the formulae, R_1, R_2, R_4, R_6 and R_7 are each H or 1-4C alkyl; R_3 is 5-15C alkyl; R_5 is 1-6C alkylene; n is 3-30; and m is 20-45. A pref. component (a) comprises a mixt. of 0-20% neutralised monobutyl part ester of (methyl vinyl ether/maleic acid) copolymer; 0-90% neutralised vinyl acetate/crotonic acid copolymer; and 0-90% neutralised acrylamide/acrylate/butylaminoethyl methacrylate terpolymer. 21.6.77 as 727848 (17pp047)

NATH/ ★ D21 66424B/37 ★DT 2808-045
Irradiation appts. for photopolymerisation of dental plastics masses - has inner housing formed by inverted cup closed by reflector holding lamp
NATH G 24.02.78-DT-808045
A35 P32 P34 (A96) (06.09.79) A61c-05/04 A61n-05/06 B01j-01/10

Irradiation appts. for photopolymerisation of dental plastics masses has a tubular outer housing in which is disposed with all-round lateral clearance inner housing formed by an inverted cup whose downwardly pointing end is closed by a reflector which supports an incandescent lamp. Inner housing is carried by the outer housing through the intermediary of thermally insulating spacer. Dia. of the reflector is ⩽ 50 mm (pref. ⩽ 45 mm) and the selectively reflecting mirror has an effective reflective range of 420 nm.

The inside of the housing is black and the lamp is supplied with a stabilised current source. 24.2.78 as 808045 (10pp536)

UNIL ★ D21 66591B/37 ★DT 2907-792
Toilet soap bar based on acyl isethionate - contains ethoxylated sorbitan ester to increase slipperiness
UNILEVER NV 01.03.78-GB-008079
A96 E17 (A25 E14) (06.09.79) A61k-07/50 C11d-01/83 C11d-17

Bar of detergent (toilet soap) contains 20-70, pref. 30-60 (wt.)% water-sol. 8-22 C-acyl isethionate salt (I) and sufficient (pref. 10-25%) ethoxylated 12-22, pref. 16-18 C ester (II) or sorbitan, with 1-30, pref. 4-20 EO (ethylene oxide) units to enhance the slipperiness.

In addn. to the increased slipperiness, the prod. has a gentle effect on the skin.

Other components which can be incorporated include perfumes, stabilisers, pigments, fillers, opacifiers, softening agents and foaming agents, e.g. mild anionic surfactants. In an example Na acyl (hardened coconut) isethionate was mixed with pure polyoxyethylene-(20)-sorbitan tristearate in 3:1 wt. ratio and made into bars of soap. 28.2.79 as 907792 (10pp016)

NAHO/ ★ D21 66606B/37 ★FR 2410-474
Cosmetic creams and lotion prodn. - to rejuvenate skin and remove wrinkles, contains irradiated base of animal embryos
NAHON M 05.12.77-FR-036603
(03 08 79) A61k-07/48

The active constituent of the prod. are subjected to one or more cycles of treatment. In each cycle the constituents are powerfully homogenised and then held at the cryoscopic temp. of the cells while ensuring that drying of the constituents does not take place.The temp. of the prod. is then raised to ambient at which it is subjected to ultraviolet irradiation.

For irradiation treatment the prod. is pref. spread in a layer about 1mm thick on a flat plate. Irradiation pref takes place for successive short spells interrupted by periods of rest. Homogenisation is pref. effected by vibrations at a frequency of 300-400 cycles per minute for a period of 10-12 minutes. The constituents are pref. filtered through a microporous filter and the filtrate dissolved in a cosmetologic vehicle.

The process provides much more efficient extraction of active constitiuents than previous processes. Rejuvenating properties are accordingly enhanced. 5.12.77 as 036603 (5pp448)

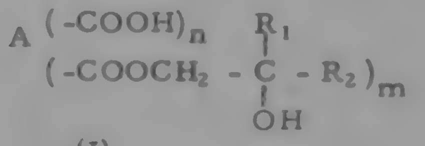
GENO D21 30358A/17 #GB 1552-176
Preventing dental enamel demineralisation and caries formation - by adding laevo-aspartyl-laevo-phenylalanine methyl ester to foods, e.g. sweet beverages
GENERAL FOODS CORP 13.10.76-DT-646224 (06.10.76-GB-041466)
*B05 E14 (12.09.79) *DT2646-224 A23l-02*

A low pH beverage contains (a) 0.015-0.15 g. equivs. of an edible food acid per quart of beverage, (b) a sweetener, and (c) 0.25-2.0g of L-aspartyl-L-phenylalanine methyl ester (I) to reduce the tendency of the beverage toward demineralising tooth enamel and/or fostering dental caries.

Pref. the beverage contains sucrose and 0.1-10 pts. of (I) per 100 pts. of sucrose. Esp. the sucrose is present in an amount of 25-100 g. per quart of beverage. 6.10.76 as 041466 (5pp990).

HENK D21 23492A/13 =GB 1552-280
Poly:carboxylic acid hydroxyalkyl ester(s) - useful as emulsifiers, esp. for cosmetics (BE 20.3.78)
HENKEL KG AUF AKTIEN 20.09.76-DT-642236
*E19 (12.09.79) *DT2642-236 A61k-07 C07c-69/34 +A61k-101/02*

Polycarboxylic acid -2-hydroxyalkyl esters of formula (I): are noved and useful as emulsifying agents in cosmetic emulsions.



$$A\begin{matrix}(-COOH)_n \\ (-COOCH_2-\overset{\displaystyle R_1}{\underset{\displaystyle OH}{C}}-R_2)_m\end{matrix}$$

(I)

A is alkyl, cycloalkyl or aryl opt. substd. or interrupted by heteroatoms. R_1 is H or 1-12C alkyl. R_2 is 12-22C alkyl. n ⩾0 and m ⩾2, provided that m n and n+m ⩾ 3.

Prodn. of a w/o emulsion by dissolving (I) in the oily phase at 60-70°C and adding the resultant mixt. to water at 60-65°C, (I) constituting 1-20 wt.% of the total emulsion is also claimed. 15.9.77 as 038478 (6pp393).

UNIL ★ D21 66686B/37 ★GB 2015-561
Aq. liq. soap contg. sulphonated ester or amide - to inhibit phase sepn., esp. in high viscosity compsns.
UNILEVER LTD 05.03.79-GB-007709 (06.03.78-GB-008833)
E19 (12.09.79) C11d-01/28 C11d-09/02 C11d-10/04

Liq. soap compsn. is a single phase contg. (a) ⩾1K, NH_4 or alkanolamine soap of a 8-22C fatty acid, and (b) a sulphonate of formula (I) $RCO.X(CH_2)_nSO_3^-\ M^+$ (R = 12-18C alkyl; X is O, NH, or NCH_3; n = 1 or 2; M is Na, K, NH_4 or alkanolamine). The wt. ratio (a):(b) is 300-1·1.

Pref. (a) include mono-, di- and tri-ethanolamine soaps of 10-18C fatty acids, and they are pref. 5-30 wt.% of the compsn. Pref. (b) are oleyl Na acylisethionate and oleyl Na acylmethyltauride at 0.1-5 wt.%.

Specifically as a shower gel, but also suitable for washing fabrics. By adding (I), highly viscous gels (up to 10^6 cps) can be made without problems of phase sepn.. 5.3.79 as 007709 (5pp1251).

KAOS ★ D21 66687B/37 ★GB 2015-562

Shampoo contg. anionic surfactant, alkanol:amide and polyacrylic acid - with stabiliser added to allow stable dispersion of finely-divided powder

KAO SOAP KK 06.03.78-JA-025147

A96 E16 (A14 E17) (12.09.79) C11d-01 C11d-03/20

Liq. shampoo, in which a water-insoluble, finely-divided powder (A) can be stably dispersed, comprises (i) NH_4 or amine salt of an anionic, water-soluble, synthetic organic surfactant; (ii) NH_4 or amine salt of a water-soluble polyacrylic acid; (iii) a fatty acid alkanolamide and (iv) as stabiliser, a lower alkanol, glycol or alkanolamine.

(A) is esp. a pigment, pearlescent agent, germicide or antiseptic. Pref. (i) is 5-30(10-20) wt.%; (ii) 0.1-1 (0.4-0.6) wt.%; (iii) 1-10(3-5)wt.% and (iv) 1-20(3-10)wt.%; the balance is pref. water.

Excellent foaming power and (iv) overcomes the destabilising effect of (iii). 21.2.79 as 006197 (6pp1251).

LIOY ★ D21 66976B/37 ★J5 4098-343

Anti-dandruff hair rinse compsn. - contg. quat. salt cationic surfactant-difficultly water-soluble antibiotic 17-70C hydrocarbon and opt. water-soluble nitrogen-contg. polymer

LION FAT & OIL KK 18.01.78-JA-003811

A96 B05 (03.08.79) A61k-07/08

Hair rinse compsn. contains (a) $\geqslant 0.3$ wt.% of quat. salt type cationic surfactant; (b) $\geqslant 0.1$ wt.% of difficultly water-sol. antibiotic; (c) $\geqslant 0.5$ wt.% of 17-70C hydrocarbon; and opt. (d) $\geqslant 0.1$ wt.% of water-sol. nitrogen-contg. high molecular substance, of mol. wt. $\geqslant 10^5$ as determined by osmosis.

In known antidandruff rinse compsns. contg. (a) and (b), the effective ingredient (b) is easily leached out on rinsing the hair with warm water. By including component (c) and opt. (d) the take-up of the antibiotic (b) on the hair is greatly improved.

Antibiotic (b) is e.g. zinc pyrithione, hexachlorophene, or colloidal sulphur. Component (c) is a hydrophobic oily substance such as paraffin or vaseline. As component (d) polyvinylpyrrolidone, vinylacetate-vinylpyrrolidone copolymer, cationised hydroxyethylcellulose, cationised acrylicic resin, etc. can be used. 18.1.78 as 003811(4pp5)

LIOC ★ D21 66977B/37 ★J5 4098-344

Chlorhexidine compsn. for oral use - contg. oil-in-water emulsion of sorbitan fatty acid ester and polyoxyethylene sorbitan fatty acid ester

LION DENTIFRICE KK 13.01.78-JA-002430

A96 B05 (A25) (03.08.79) A61k-07/16

Compsn. comprises and O/W type emulsion prepd. by combining (a) 0.01-10 wt.% sorbitan fatty acid ester and (b) 0.01-20 wt.% polyoxyethylene sorbitan fatty acid ester with the wt. proportion of (a):(b) = 1:2-10, compsn. contg. 0.0001-1 wt.% chlorhexidine. Pref. sorbitan fatty acid ester having HLB 2-8 and polyoxyethylene sorbitan fatty acid ester having HLB 10-16 are used.

By combining components (a) and (b) together chlorohexidine is hardly inactivated and they show the synergistic germicidal effect and synergistic growth-suppressing effect on microbes. Excellent oral compsn. can be prepd. with low chlorohexidine concn. and it can be preserved stably for long time. 13.1.78 as 002430(6pp5)

SUMB ★ D21 67037B/37 ★J5 4098-854

Paper for bundling hair before coiling in permanent wave formation - comprises starch-protein extruded film

SUMITOMO BAKELITE KK 20.01.78-JA-004228

A96 P24 (04.08.79) A45d-07 A61k-07/09

The end paper comprises a starch-protein binary extruded film. It is used for bundling hair before coiling of the hair onto a rod, during permanent wave formation.

Contact of the agent (aq. soln.) for permanent wave with hair can be rapidly achieved and the film can be easily washed away without causing tackiness of hair in the final process. No waste is formed.

The film can be obtd. by extrusion-moulding or inflation-moulding of a mixt. consisting of alkali metal or alkaline eerth metal salt of protein system substance (e.g. casein or albumin), starch system substance (e.g. starch or processed starch), hydrophilic plasticiser miscible with these natural high polymer substances (e.g. ethylene glycol, propylene glycol or glycerin), lubricant and water. The mixing ratio of the binary film materials is, salt of protein system substance 5-95, pref. 30-80 wt.pts., and starch system substance 95-5, pref. 70-20 wt.pts. 20.1.78 as 004228(3pp50)

ERIC- D21 54872U/38 =J7 9024-239

Tooth-filling compsn - consisting of pasty phase contg polymerisable component and substrate contg polymsn catalyst

ERICKSON & CO WA (ERI -) 03.03.72-US-231736

*A96 +P32 (20.08.79) *DT2309-905 A61k-05 C08f-02 +A61c-05 C08g-85*

Polymsn. system used as a tooth-filling compsn. consists of (a) a paste-like phase contg. a polymerisable component (I), pref. bisphenol A and glycidyl methacrylate and opt. ethylene glycol dimethacrylate, and (b) a sheet substrate carrying a catalyst, on or near its surface, for polymerising (I). Catalyst is available in sufficient quantity for incorporating into (a) to catalyse polymsn. of (I) when (a) is smoothed over the surface of (b). Phase (a) also contains a finely divided inorg. filler, esp. crystalline quartz, and an aromatic tert. amine, esp. dimethyl-p-toluidine, as promoter.

Catalyst is pref. an org. peroxide, esp. benzoyl peroxide. Combination of promoter and catalyst forms free radicals for polymsn. of (I). 2.3.73 as 024440 (clg. 3.3.72-US-231736) A61k-5/00, A61c-5/00, C08f-2/00, C08g-85/00 (20.8.79) ERICKSON & CO., W.A. (4pp) (J48101794)

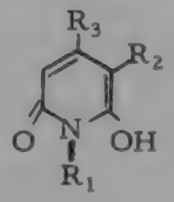
HENK D21 19950A/11 =US 4165-967

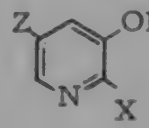
Hair colouring agents giving wide range of colours - by successive application of diazonium salts and specific pyridine derivs. as coupling agent

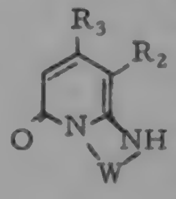
HENKEL KG AUF AKTIEN (CIBA) 02.09.76-CH-011135

*E21 (28.08.79) *DT2739-227 A61k-07/13*

Human hair is dyed with developing dyer, by applying an effective amt. of the aq. soln. of diazo salts and coupling components successively to the hair in any sequence, at 15-40° C, such that the diazo salts and coupling components are coupled with each other.


(I)


(II)


(III)

The coupling component is a deriv. of hydroxy-pyridine or pyridone, having formulae (I), (II) or (III), such that R_1 is H or a monovalent organic gp.; R_2 is cyano, aminocarbonyl, or alkyl substd. by a carboxylic- or sulphonic acid; R_3 is $\leqslant$5C alkyl which is opt. substd. by a carboxylic- or sulphonic acid gp. or Ph, opt. para-substd. by a pyridone. W is an alkylene or o-phenylene bridging gp. X is a hydroxy or amino gp., and Z is H or a halogen. The soln. is of concn. 0.1-10 wt.% w.r.t. diazo and coupling moieties, which are in molar ratio 2:1-1:2.

The dyeings obtd. have good fastness properties w.r.t. light, to washing and to rubbing, and in many cases display a beautiful lustre. 24.8.77 as 827402 (8pp931)

COLG ★ D21 67885B/37 ★US 4166-073

Unsymmetrical poly:onium quat. cpds. - useful as antimicrobials and as dental anticaries agents

COLGATE PALMOLIVE CO 22.08.77-US-826587 (27.03.68-US-716412)

B05 E16 (D22) (28.08.79) A01n-09/20 C07c-87/30

Unsymmetrical poly-onium quat. cpds. of formula (I) are new:

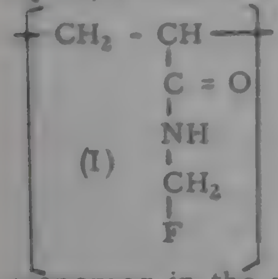
$$[RR_1R_1\overset{+}{N}-(CH_2)_n-\overset{+}{N}R_1R_1-(CH_2)_b-\overset{+}{N}R_4R_4-CH_2C_6H_{5-(m+p)}(R_3)_m(X)_p]A \qquad (I)$$

R is 10-18C n-alkyl; n is 2-18; R_1-R_4 are 1-3 C alkyl; b is 2-12; X is Cl, Br or I; m is 0-3; p is 0-3, with m + p = 0-3; and A is halide, alkylsulphonate or phenylsulphonate anion.

(I) are antimicrobials and are useful as dental anticaries agents and for disinfecting purposes. Used at ≤ 5 wt.% in toothpaste etc. 22.8.77 as 826587(9pp1248)

OREA D21 82954Y/47 =US 4166-109
Polymers absorbing ultraviolet radiation - for use in cosmetic compsns. giving protection from the sun
L'OREAL SA 29.07.76-FR-023174 (26.06.73-FR-023254)
*A96 (A14) (28.08.79) *BE-854-748 A61k-07/42*

An anti-solar cosmetic compsn. is prepd. comprising an aq. hydroalcoholic or oily soln. of ≥1 anti-solar polymer having ≥1 unit of the formula (I) in its macromolecular chain.


(I)

$$\left[CH_2 - \underset{\underset{\underset{\underset{F}{|}}{CH_2}}{\underset{|}{\underset{NH}{|}}}}{\underset{|}{\underset{C=O}{|}}}{CH} \right]$$

In the formula, F is a residue derived from an aromatic cpd. imparting to the polymer the ability to absorb wavelengths of 280-315 nm.

The compsn. further contains ≥1 unit derived from an ethylenically unsatd. monomer in the macromolecular chain, present to 20-90 wt.% of the polymer. The polymer has average mol. wt. of 2000-1000000 and is present in amt. of 0.2-20% of the total compsn.

The compsn. prepd. can be applied to the skin to form a film exhibiting good affinity with the epidermis. The compsn. is non-toxic, and can protect dyes present in cosmetic formulations such as hair dyes from degradation. 18.8.76 as 715565 C.i.p. 3980617(+27.6.73-US-374058) (15pp931)

LIOC D21 57209A/32 =US 4166-110
Nail varnish removable by drawing varnish off nail - contains resin soluble in organic solvents and substd. organo-polysiloxane pref. contg. polyoxyalkylene gps.
LION DENTIFRICE KK 02.02.77-JA-009808
*A96 G02 (A14 A25 A26) (28.08.79) *DT2804-298 A61k-07/04*

A nail enamel compsn. is prepd. by dissolving a solid resin and an organopolysiloxane, esp. a copolymer having a polysiloxane structure and a polyalkylene structure, together in an organic solvent.

The compsn. contains 100 pts. wt. of a natural or synthetic resin which is solid at room temp., 0.01-30 wt. pts. of an organopolysiloxane, $R_a{}^1R_b{}^2(SiO)_{4-a-b/2}$, where R^1 is a monovalent hydrocarbon, and R^2 is bonded directly to the silicon atom to form an Si-O-linkage. R^2 is hydroxy, alkoxy, a residue of formula $-OCOR^3$ or a polyoxyalkylene; a and b are positive numbers such that (a+b) is 1-8-3.0. Pref. the resin is a copolymer of vinyl chloride and vinyl acetate, a sulphonamide resin, an acetal resin, a polyacrylic ester, a polymethacrylic ester or nitrocellulose.

The compsn. forms a film on the surface of the fingernail and the film thus formed can easily be peeled off. 31.1.78 as 873850(5pp931)

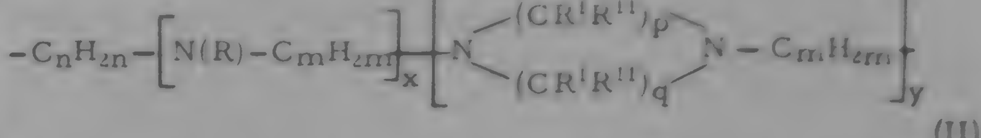
SMIT/ ★ D21 68009B/37 ★US 4166-744
Dry powder zinc oxide contg. adhesive cement - contg. (non)polymerised carboxylic acid, setting to strong hard product on water wetting, for dentistry
SMITH D F 31.05.77-US-801609 (07.07.75-US-593885)
A96 (04.09.79) C09k-03

An ultra-dry powder mix that on moistening with water quickly becomes adhesive and sets to a strong hard cement is made by (a) mixing ZnO and a weak organic solid acid (I) in an inert volatile anhydrous liquid (II) to thoroughly wet the powder components to form a slurry, (b) evaporating the liq. from the slurry after shaping into a desired form, and (c) protecting the slurry and dried prod. from moisture until use. The ZnO may be essentially pure or treated with 0.5wt.% of propionic or lauric acid. (I) is a solid, non-polymerised polycarboxylic acid or solid polymer acid that is quickly wet and is very soluble in water.

The cement may be used as a base or lining in a tooth cavity, temporary fixing for the bands of ortho-dontic appliances, for sealing root canals, for permanent fillings and in orthopaedics to assist in replacing bone fragments. The cement is partic. adhesive to the skin but is non-irritating. Excess water is not required and strength of the cement is improved. 31.5.77 as 801609, C.i.p.4046578. (6pp966)

COOQ ★ D21 68055B/37 ★US 4166-827
Antimicrobial bis-carbamyl-guanidino aza-alkane derivs. - esp. against dental plaque forming bacteria, without affecting taste or staining
COOPER LABS INC 22.06.78-US-918090 (30.10.75-US-627139)
B03 (04.09.79) A61k-31/17 C07c-127/15 C07d-295/12

Guanidine derivs. of formula Z—B—Y—B—Z (I) and their acid addition salts are new. In (I), Y is a gp. (II):


(II);

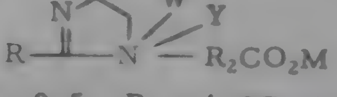
n = 2-4; m = 2-4; p = 2, 3; q = 2-4; x = 0-3; y = 0-2; x = 0 when y ≠ 0 and y = 0 when x ≠ 0; R = H, (1-8C)alkyl, (1-8C)alkynyl, (1-8C)alkenyl, (1-8C)cycloalkyl or (1-8C)aralkyl; R^I and R^{II} = same or different H or (1-4C)alkyl; B = carbamylguanidino, or thiocarbamylguanidino with the proviso that when p and q are both 2, then B is not carbamylguanidine in which the guanidino part is attached to Y; Z = (1-12C)alkyl, di(1-10C)alkylamino(2-10C)alkyl (contg. 4-12C overall); (3-12C)alkenyl; (3-12C)alkynyl, (3-12C)-cycloalkyl, (4-12C)cycloalkylalkyl, (6-12C)cycloalkenyl, (7-14C)cycloalkenylalkyl, (8-12C)polycycloalkyl, (9-14C)-polycycloalkylalkyl, (1-10C)alkoxy(2-10C)alkyl (contg. 3-14C overall), (1-10C)alkylthio(2-10C)alkyl (contg. 3-14C overall, phenoxy)2-6C)alkyl, phenylthio(2-6C)alkyl, (6-14C)aryl, (7-14C)aralkyl, arylcycloalkyl, (9-12C)benzocycloalkyl, (6-14C)aryl or aralkyl substd. by one or more lower alkyl, CF_3, lower alkoxy, CF_3O, phenoxy, lower alkylthio, halo, nitro, CN, (2-6C)alkanoyl, benzoyl, lower alkoxycarbonyl, diloweralkylamino, lower alkylSO_2-, F-SO_2- or loweralkyl-SO-.

(I) are antimicrobial agents, esp. against dental plaque forming bacteria. They have prolonged activity, do not affect taste and do not stain the teeth, gums, tongue or oral mucosa. They are also active against Candida albicans. 22.6.78 as 918090, C.i.p. 4110328 (cf. 30934Y/18) (+26.10.76-US-735319) (15pp916)

COLG ★ D21 68064B/37 ★US 4166-845
High foaming anti-dandruff shampoo - contg. betaine detergent, anionic or amine oxide or amphoteric detergent, nonionic detergent and amino-polyurethane resin
COLGATE PALMOLIVE CO 09.05.77-US-795358 (16.11.70-US-090155)
A96 E19 (04.09.79) A61k-31/78

High foaming antidandruff shampoo with cosmetic conditioning properties consists of: (a) 14-25wt.% of an H_2O-soluble betaine detergent (I); (b) 1-6wt.% of H_2O-soluble supplementary detergent (II); (c) 2-8wt.% of an H_2O-soluble nonionic detergent (III); (d) 1-3wt.% of an aminopolyureylene resin (IV); and (e) H_2O.

(I) is $Z(N)R_1R_2CH_2CO_2$ where Z = 10-16C alkyl, alkyl amidoethyl or alkyl amidopropyl; R_1R_2 = 1-3C alkyl (and OH substd.). (II) is $R(OC_2H_4)_mOSO_3M$, $R(R_1)_2NO$, $RCONMeCH_2CO_2M$, $RNHC_2H_4CO_2M$, $RN(C_2H_4CO_2M)_2$,



, or R_4X where R = 10-18C alkyl; m = 0-5; R_1 = 1-3C alkyl (and OH substd.); W = R_2OH, R_2CO_2M, $R_2OR_2CO_2M$; R_2 = 1-4C alkylene (and OH substd.); Y = OH, R_3OSO_3; R_3 = alkyl, alkaryl, fatty acyl glyceride (6-18C alkyl or acyl); R_4 = 10-18C 2-HO-alkyl; X is $NMe(CH_2)_2SO_3M$, $N(O)MeCH_2CO_2M$, $N(O)Me(CH_2)_2SO_3M$, $NMeCH_2CO_2M$, and $N(CH_2CH_2OH)_2$; M = Na, K, NH_4, and mono-, di- and tri-ethanolammonium.

(III) is a black copolymer of ethylene oxide (EO) and propylene oxide (PO) on propylene glycol (EO 10-80wt.%; mol. wt. of hydrophobe 1200-3500) and/or a condensate of a heteric mixt. of oxypropylene and oxyethylene (ratio 3-1: 1-3) on a 1-8C alkanol (condensate mol. wt. 600-4000). (IV) has mol. wt. 300-100,000 and has the repeating unit $\text{-}[(CH_2)_nX(CH_2)_nNHCONH]\text{-}$ where X is NH, N-alkyl (1-2C) or piperazino; n = 2 or 3.

Clear, homogeneous compsn. have outstanding conditioning properties, inhibit the growth of Pityrosporum ovale, form copious long-lasting lather in hard and soft

$_2$O, show min. refoaming activity during rinsing, and ot only clean hair but keeps hair luster. 9.5.77 as 25358 (7pp478)

See Also

D16 DT 2906730 D16 DT 2908150 D21 US 4166073

D22: BANDAGES; DRESSINGS

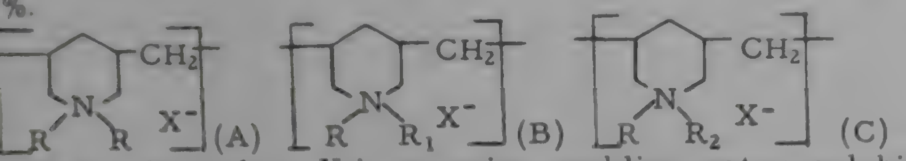
MIN ★ D22 66366B/37 ★BE -875-885

Vater soluble terpolymers contg. piperidinium methyl units - used s disinfectants esp. for contact lenses

SMITH & NEPHEW LTD 26.04.78-GB-016577

A96 P34 (16.08.79) A61l C08f

Polymer is made up of ⩾90% of units (A) (B) and (C), the emainder (0-10%) being units of compatible copolymeri-able monomers; the amts. of each of (A)(B) and (C) are %.



In the formulae, X is an anion enabling water-solubility R is 1-4C alkyl or hydroxyalkyl; R_1 is (a) ⩾6C alkyl or ydroxyalkyl; or (b) mononuclear non-substd. carbocyclic r heterocyclic aryl gp. sepd. from the N atom by a non-ubstd. ⩾6C alkylene; R_2 is different from R_1 and when R_1 s as (a) R_2 is as (b) or ⩾8C alkyl or hydroxyalkyl and ⩾1C: tom more than R_1 (a), or when R_1 is as (b) R_2 is as (a).

The polymers are used to sterilise a surface, and the olymer in which R is methyl, R_1 is n-octyl and R_2 is n-auryl or n-cetyl, is used to sterilise a contact lens. The olymers are used in aq. soln. as disinfectants for application to human skin or a similar membrane. 26.4.79 as 375885 (23pp597)

AIRW- ★ D22 B/37 ★BR 7900-550

Gel compsn. for deodorising air

AIRWICK INDS INC 31.01.78-US-873827

*P34 (21.08.79) A61l-09/** 30.1.79 as 000550

KEMA D22 33078Y/19 =DS 2647-915

Antimicrobial and pesticidal guanidated polyamine mixtures - which are produced by reacting aliphatic polyamines with a guanidating agent, e.g. cyanamide

KEMANORD AB 22.10.75-SW-011852

*A60 C03 E16 P34 (06.09.79) *DT2647-915 A01n-09/20 A61l-13*

Mixtures of static guanidated aliphatic polyamines (guanidation degree > 30%) or their acid addition salts, have antimicrobial or pesticidal activities. Pref. the guanidation degree is >70, esp. 70-95%. The mixts. are used as agricultural and horticulture fungicides, and as seed disinfectants.

The mixt. can be prepd. e.g. by reacting polyamine acetate with a neutralisation degree of 60-98° and cyanamide in aq. soln. at 60-100°C; a homogeneous soln. is obtd. after about 5 hrs., which is storage stable at -10°C after pH adjustment. 22.10.76 as 647915 (5pp913)

FARB D22 35142A/20 =DS 2651-089

Orthopaedic medical or veterinary dressing - contg. web coated with prepolymer of aromatic poly:isocyanate and poly:ol contg. tert. amine nitrogen

BAYER AG 09.11.76-DT-651089

*A96 P32 +P34 (A25) (06.09.79) *DT2651-089 A61f-13/04 A61l-15/07*

Self-hardening support dressings for medicinal or veterinary use comprise an air-porous flexible surface dressing impregnated or coated with an aromatic isocyanate/tert. amine/polyol prepolymer. The NCO content is 5-30 wt. %; and the tert. amine content is 0.05-2.5 wt. %.

The prods. are an alternative to support dressings based on gypsum. 9.11.76 as 651089 (7pp047)

GOLD ★ D22 66467B/37 ★DT 2808-943

Microbicidal guanidinium salt derivs. - are prepd. by reacting geminal substd. di:alkyl poly:amine with methyl isourea- or thiourea sulphate or with cyanamide

GOLDSCHMIDT TH AG 02.03.78-DT-808943

E16 P34 (06.09.79) A61l-13 C07c-129/12

New guanidinium salts have formula $[R^1R^2N-[(CH_2)_3NH]_n-C(=\overset{+}{N}H_2)-NH_2]\ ^{+}X^{-}$ (I) (where R^1 and R^2 are 8-16 n-alkyl gps., X is an anion and n = 1 or 2). (I) are used as the active ingredients in microbicidal compsns. against pathogenic agents, food damaging and other microbes. The microbicidal properties of (I) are retained in the presence of soap or protein. The combination of the R^1R^2N-, $-((CH_2)_3-NH)_n-$ and $-C(=NH)-NH_2$ gps. in 1 mol. imparts specific properties w.r.t. resistance behaviour. (I) can be degraded biologically.

(I) are prepd. by reacting geminal substd. dialkyl-polyamines having formula $R^1R^2N-[(CH_2)_3NH]_nH$ (II) with e.g. (a) at least semi-molar quantities of O-Me isourea sulphate $(H_2N-C(=NH)-OMe)_2.H_2SO_4$, (III), or (b) with at least molar quantities of S-Me isothiourea sulphate $(H_2N-C(=NH)-SMe).H_2SO_4$ (IV) in aq. and/or alcoholic soln., opt. with heating and sepg. the reaction prods., opt. after concn., by filtration etc. 2.3.78 as 808943(28pp200)

MERE ★ D22 66514B/37 ★DT 2809-475

Aldehyde detection and semi-quantitative determn. in liquids - using carrier impregnated with thiourea, peroxy di:sulphate and 4-amino-3-hydrazino-5-mercapto 1,2,4-triazole

MERCK PATENT GMBH 04.03.78-DT-809475

E19 J04 R16 (06.09.79) G01n-31/22

Agent for the detection and the semi-quantitative determn. of aldehydes in liqs. consists of an absorbent carrier, e.g. filter paper, impregnated with thiourea and peroxydisulphate in addn. to 4-amino-3-hydrazino-5-mercapto-1,2,4-triazole, (I), as colour-reactor.

The analytical reagent can be used by non-laboratory personnel, e.g. for detecting aldehydes and precursors in disinfectant compsns. A reaction zone with a non-coloured zero value can only be achieved in the presence of thiourea and the peroxydisulphate. In the presence of aldehydes, the testing zone turns violet. 4.3.78 as 809475 (7pp200)

COLG D22 86993X/47 =GB 1552-469

Baby's disposable nappy - with absorbent wad of thermo-mechanical wood pulp

COLGATE PALMOLIVE CO 07.07.75-US-593907

*F07 P21 P32 +P73 (12.09.79) *BE-843-834 A41b-13/02 A61f-13/18 +B32b-05/18*

Absorbent article such as a sanitary towel has a pad of wood fluff fibres of average length 1.0 to 1.9 mm produced from thermomechanically prepared pulp. Both surfaces of the pad are covered with a sheet.

The pad pref. contains fibres produced from chemically prepared pulp. Pref. one surface has a fluid pervious and the other surface a fluid impervious sheet.

The energy required to produce fibres thermomechanically is less than that required for chemical fibres, and the fluid holding capacity under load is improved since the fibres do not collapse upon wetting. 29.6.76 as 027035 (6pp1376).

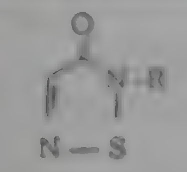
MERI D22 32025A/18 #GB 1552-503

Antimicrobial, antifungal 1,2,5-thiadiazolone-3.cpds. - prepd. e.g. from a substd. amino-acetamide and sulphur mono:halide

MERCK SHARP & DOHME 05.07.77-US-813015 (03.10.77-GB-040992)

*C03 E13 F09 (12.09.79) *BE-860-069 A01n-09/12 C07d-285/06*

1,2,5-Thiadiazole derivs. of formula (I) are new. In (I), R is 1-16C alkyl, phenyl (1-10C)



(I) alkyl, phenyl or 1-10C alkylated phenyl. Specific cpds. include (I) when R is benzyl, phenyl, dodecyl, n-propyl and isopropyl.

(I) are prepd. by reacting an amide of formula $H_2N-CH_2-CO-NHR$ with S monohalide at -10 to +60°C for 10-18 hours.

(I) are antibacterial and antifungal cpds. They are used to protect plants and fruit and vegetables. They are also useful for protecting wood and natural and synthetic fibres. 3.10.77 as 040992 (5pp9).

UYFL- D22 78321A/44 =GB 1552-570
Metal-coated biologically active glass - used to make artificial implant useful in orthopaedics and dentistry
UNIV OF FLORIDA 19.05.77-US-798671
*L01 M13 P33 +P32 P42 (12.09.79) *BE-866-323 C23d-05/04*

Bioglass layers are bonded to metal substrates by (i) heating the substrate which has a roughened oxidised surface to a max. temp. T_1 such that the total volume expansion of the metal is equal to that of the bioglass at the temp., T_s, at which the temp. dependence of the volume of the bioglass becomes non-linear; (ii) providing a body of molten bioglass at a temp., T_W, at which the bioglass is sufficiently fluid to allow immersion of the metal.

There is followed by (iii) immersing the surface until a bioglass layer of the desired thickness is adhered by ion diffusion, but the immersion time is such that the temp. of the surface does not go above T_1; (iv) terminating the immersion; (v) rapidly cooling the coating from T_W to T_s to relieve thermal-mechanical stresses in the bioglass layer and (vi) allowing the coated substrate to cool further so that the thermal-mechanical stresses in the coating and surface are relieved at an equal rate.

Coatings allow bone tissue to bond to metal prostheses. 12.4.78 as 014 375 (8pp974).

NIRA ★ D22 66949B/37 ★J5 4098-091
Wound dressing material - comprises fibrous assembly, film or sponge contg. antiplasmin
UNITIKA KK 18.01.78-JA-004651
A96 B04 P34 (02.08.79) A61l-15/03

Material comprises a structure in the form of a fibre assembly, a film or a sponge, with antiplasmin bonded to or adsorbed by the structure. The antiplasmin is pref. aprotinin, ε -aminocaptoic acid or tranexamic acid.

The material is used to protect cuts, bruises, gashes scratches or burns. The protective material suppresses fibrinolysis of a wound for long periods.

The structure pref. consists of regenerated cellulose, cellulose acetate, protein e.g. silk or collagen, or a synthetic high polymer e.g. polyester or polyamide. The antiplasmin can be dissolved in a solvent e.g. water, methanol, ethanol or benzene. The protective material is sterilised with ethylene oxide or by irradiation with X-rays. 18.1.78 as 004651(5pp86)

MITR ★ D22 67231B/37 ★J5 4100-181
Fixing member for orthopaedics - comprises flexible base, e.g. cotton gauze, coated with resin compsn. contg. polymer having isocyanate gps.
MITSUBISHI RAYON KK 25.01.78-JA-007074
A96 P32 (07.08.79) A61f-13/04

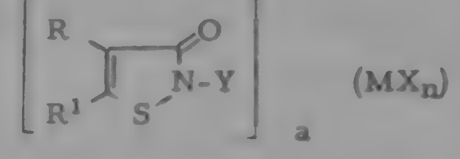
The fising member comprises a flexible base and a layer of a resin compsn. consisting of a polymer with NCO radicals. The polymer is selected from polyethers, polyols, polyester polyols, polyamines, polyhydric alcohols, hexamethylene diisocyanate, tolylenediisocyanate, diphenylmethane diisocyanate and naphthalene diisocyanate. The flexible base has a sheet or cylindrical shape consisting of natural fibre, such as cotton, or synthetic fibre, such as polyester, polyamide, acrylate, polypropylene or PVA.

The fixing member has high flexibility and high mechanical strength.

In an example, the resin compsn. consists of a polyurethane prepolymer (50 wt.%) and diphenymethane diisocyanate (50 wt.%). The compsn. is coated on a cotton gauze and dried to form the fixing member. 25.1.78 as 007074 [illegible]

ROHM D22 76318T/48 =J7 9023-96
Metal complexes of 3-isothiazolones - with biocidal activity
ROHM & HAAS CO 12.05.71-US-142775
*B03 C01 E12 +P34 (17.08.79) *NL7205-866 A01n-09/12 C07d 275/02*

Complexes (I) of 3-isothiazolones (II) and metal salts are prepd. by reacting (II) with a metal salt or a metal cpd. which forms a salt with (II). Pref. (I) are of formula:-



(where Y=H, opt. substd. 1-18C alkyl, opt. substd. 2-18C alkenyl or alkynyl, opt. substd. 3-12C cycloalkyl, opt. substd. ≤ 10 C aralkyl or ≤10C aryl; R and R^1 are H, halogen or 1-4C alkyl or together form a benzene ring opt. substd. by ≥ 1 of halogen, NO_2, 1-4C alkyl, CN and/or 1-4C alkoxy; M is a cation of cationic complex of a metal, pref. Ba, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Ag, Na, Sr, Sn, Zn or a complex thereof with NH_3 or an amine; X is an anion forming a cpd. with M; a is 1 or 2; n is a no. satisfying the valency of M). (I) are biocides, e.g. bactericides, algicides, fungicides, slimicides, insecticides and herbicides. 26.4.72 as 04211 (clg. 12.5.71-US-142775) A01n-9/12, C07d-275/02 (17.8.79) ROHM & HAAS CO. (25pp)(J48048465)

NIKS D22 54665Y/31 =J7 9023-969
Air deodorising aq. emulsion - contg. camphor, limonene, citral, geraniol, essential oil and sodium salt of fatty acid
NIPPON KASEI KK 12.12.75-JA-149396
*E19 +P34 (17.08.79) *J52072-825 +A61l-09/**

The method is characterized by mixing vegetable essential oil containing one or more kind of camphor, limonene, citral and geraniol, vegetable essential oil contg. Δ3-carene and α-terpineol and sodium salt of fatty acid, and adding water to the mixture for emulsifying it.

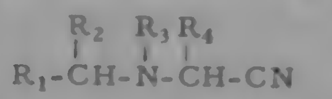
The deodorizer has aroma and can deodorize nasty odour by removing effect on sulphur-contg. odorous substance, masking effect and neutralising effect.

By mixing Δ3-carene and α-terpineol synergistic deodorizing effect can be obtd.

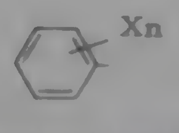
By spraying aq. emulsion in the odorous atmos. (e.g. hydrogen sulphide, methylmercaptane, methylsulphide, etc.), the amount of sulphur-contg. odorous substances can be decreased, but its chemical mechanism has not been cleared. 12.12.75 as 149396 A61l-9/01(17.8.79) NIPPON KASEI KK (3pp)(J52072825)

SUMO D22 26292Y/15 =J7 9024-442
Nonmedical, antibacterial agents for controlling plant dieseases - contg. (N)-substd. amino-acetonitrile derivs. which can be used with other pesticides and fertilisers
SUMITOMO CHEMICAL KK 26.08.75-JA-103644
*A60 C03 E19 (D15) (21.08.79) *J52028-937 A01n-09/20 C07c-121/44 +C07d-213/36*

Non-medical antibacterial agents contain (as active component) a N-substd. aminoacetonitrile derivs. of formula (I) (in which R_1 is pyridyl, phenyl opt. substd. with Xn



$$R_1-\overset{R_2}{\overset{|}{C}}H-\overset{R_3}{\overset{|}{N}}-\overset{R_4}{\overset{|}{C}}H-CN \quad (I)$$

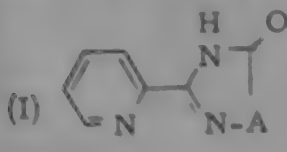


(where X is same or different halogen, nitro, lower alkyl or lower alkoxy; n is integer 1-5); R_2, R_3 and R_4 are each H or lower alkyl).

The active cpds. are effective in controlling plant diseases such as blast leaf spot, Sheath blight. bacterial leaf blight, stem rot, Bakanae disease, rust, smut, scab, blossom blight, fruit spot, powdery mildew, fusarium wilt, etc. Further, the cpds. are active against bacteria other than plant pathogenic bacteria. The cpds. are also used as antiseptics or slime-controlling agents for wood or bamboo prods., fibre prod. paper prod. cosmetics, glasses, paints and synthetic resin prods. 26.8.75 as 103644 A01n-9/20, 9/22, C07c-121/44, 213/36 (21.8.79) SUMITOMO CHEMICAL KK (16pp)(J52028937)

SUMO D22 58212X/31 =J7 9024-444
Herbicidal and fungicial pyridyl triazinones - e.g. 3-(2-pyridyl)1,4,5,6-tetrahydro-1,2,4 triazin-5-one
SUMITOMO CHEMICAL KK 21.01.75-JA-009543
*C02 E13 (21.08.79) *DT2602-186 A01n-09/22 C07d-401/04*

Agents with herbicidal and fungicidal activity contain a cpd. of formula (I):-

(I) 

(where A is -NH-CHR- or -N=CR-, the N-atom of this residue being attached to the N-atom. adjacent to A in the ring, and R being H, 1-5C alkyl, (1-3C alkoxy) carbonylmethyl, or phenyl), e.g. 3-(2-pyridyl)-1, 4, 5, 6-tetrahydro-1, 2, 4-triazin-5-one. The cpd. (I) in which A is $-NH-CH_3-$ is new and claimed. (I) have herbicidal and fungicidal properties, and are partic. suitable for non-medicinal purposes (e.g. for agricultural or industrial purposes).

(I) are active against a wide range of phytopathogenic fungi and in addn. have considerable antimicrobial activity against various fungi and bacteria occuring in industrial prods. The toxicity of (I) to mammals and fish is low. When used as herbicides, (I) display pre- and post-emergence activity against various grassy and broadleaved weeds. The selectivity of (I) is so high that many crops such as rice, wheat, radishes, soya beans, cotton, beet, maize and rape are not markedly damaged by (I). 21.1.75 as 009543 A01n-9/11;C07d-401/04 (21.8.79) SUMITOMO CHEMICAL KK (5pp)(J51086132)

HESS/ ★ D22 67777B/37 ★SW 7712-360
Wound dressing compsn. including water-soluble alginate and salt - which react to produce water-insoluble alginate upon contact with water
HESSELGREN S G 02.11.77-SW-012360
*A96 P34 (11.06.79) A61l-15/**

ALKU D22 40702A/23 =US 4165-743
Regenerated cellulose fibres with high liq. absorbing capacity - mfd. by incorporating alkali metal or ammonium salt of copolymer of an alkyl-vinyl-ether and unsaturated di:carboxylic acid
AKZONA INC 29.11.76-US-745934
*A11 F06 +P32 P34 (28.08.79) *DT2750-900 A61f-13/18*

Fluid absorbent regenerated cellulose fibre is admixed with 2-35 wt.% (based on wt. of cellulose) of a water-sol. alkali metal or ammonium salt of a copolymer of an alkyl vinyl ether and an unsatd. dicarboxylic acid (anhydride), having a mol. wt. of $\geqslant$ 250000. The fibres are more absorbent than non-alloyed cellulosic fibres.

Pref. copolymer is formed of alkyl vinyl ether and ethylenic α, β-dicarboxylic acid (anhydride), specifically maleic acid. Specific copolymer is formed of methyl vinyl ether and maleic anhydride.

The fibres are used in nonwoven absorbent articles, e.g. diapers, tampons, wiping cloths, etc. They have increased absorbency characteristics. 29.11.76 as 745934 (5pp924)

SQUI D22 89644A/50 =US 4166-051
Formable compsn. used as protective layer for stoma in surgery - comprises mineral oil and premix contg. adhesive, gum and/or reinforcing agent
SQUIBB E R & SONS INC 08.06.77-US-804692
*A96 G04 P32 +P34 (A18) (28.08.79) *BE-867-939 A61f-05/44 C08l-03/04 +C08l-01/02*

An ostomy compsn. is prepd., adapted for medicinal use around the stoma comprises a mineral oil and premix in ratio 1-3.3:10 on a solids wt. basis.

The premix is a homogeneous mixt. of (A) 40-60 wt.% of a pressure-sensitive adhesive component and an opt. elastomer, and (B) 40-60 wt.% of a mixt. of $\geqslant$1 hydrocolloid gum and/or cohesive strengthening agent.

The adhesive cpd. is a low mol. wt. polyisobutylene, and the elastomer a medium mol. wt. polyisobutylene or butyl rubber in amt. $\leqslant$ 30 wt.% w.r.t. low mol. wt. cpd. The hydrocolloid gum comprises $\leqslant$ 40 wt.% of guar and/or locust bean gum, and 0-25 wt.% of pectin and/or gum karaya.

The strengthening agent is finely divided cellulose, or a water-insol. cross-linked dextran, sodium carboxymethyl-cellulose or starch-acrylonitrile graft copolymer.

The compsn. prepd. can be easily shaped as required need by controlling the amt. of mineral oil. 8.6.77 as 804692(4pp931)

CLIN- ★ D22 67890B/37 ★US 4166-087
Static vapour generator for air treatment - has syneresis pad cooperating with gel body to give uniform vapour generation
CLINE-BUCKNER INC 04.02.75-US-547015 (22.11.71-US-200968)
J04 (28.08.79) B01f-03/04

The generator comprises a vapour producing gel body cont -g. a gelling agent and a coacting air treatment liq. system. The gel body is positioned in contact with a syneresis pad which absorbs liq. squeezed out of the gel body. The exposed area of the syneresis pad increases as the exposed area of the gel body decreases so that the overall exposed area of the gel body and pad tends to remain constant.

Used for treating air with medicament, decongestants, inhalants, insecticides and deodorants. The generator does not require a propellant but uses automatic intermittent air movement to dispense accumulated vapours into the region to be treated. The syneresis pad provides uniform vapour generation over the life-time of the generator. 4.2.75 as 547015(+29.2.74-US-446915)(8pp67)

AMSA ★ D22 67896B/37 ★US 4166-096
Steam steriliser for treating highly infectious articles - produced no biologically unsafe discharge
AMERICAN STERILISER CO 23.03.78-US-889383
P34 (28.08.79) A61l-03

A steriliser for treating highly infectious material comprises a chamber having an access door but no drain line. Steam is supplied to the chamber to achieve saturated steam at sterilising conditions. An exhust system for the chamber includes a bacteria-retentive filter and a vacuum source.

The chamber cincludes at least one dam, and pref. two, to form a reservoir for the condensate to prevent it from escaping when the chamber door is opened.

There is no discharge which is not biologically safe. 23.3.78 as 889383(5pp295)

INTM ★ D22 67908B/37 ★US 4166-121
Controlling growth of bacteria, e.g. in starch adhesives - by applying prod. obtd. from nitro:alcohol and amine starting materials
INT MINERALS & CHEM CORP 14.09.78-US-942206 (01.10.76-US-728695)
E13 G03 H01 (28.08.79) A01n-09

Growth of bacteria is controlled by the application of a prod. (I) obtd. by (a) reacting a nitroalcohol of formula $C(R)(R')(NO_2)-CH_2OH$ (where R and R' are each H, CH_3, C_2H_5 or CH_2OH) in a 1:1 mole ratio with an amine of formula R^2NH_2 (where R^2 is 1-4C alkyl, phenyl, benzyl, toluyl or xylyl) at 50-70°C to form a nitroamine; (b) reacting the nitroamine with nitrous acid at 0-5°C to form a nitroso cpd., and (c) reducing the nitroso cpd.

Prod. (I) are partic effective in aq. systems such as starch adhesives and solns., oil drilling muds and water dilutable cutting oils based on petroleum hydrocarbons, and are generally used at a conc. of 100-2000 ppm US 4148803 described the prepn. of prods. (I). 14.9.78 as 942206 Div. ex 4148803 (+23.2.78-US-880687)(5pp990)

CARB- D22 22411B/12 =US 4166-292
Joint prosthesis element - having a carbon coated graphite body encircled by a metal pressure band
CARBOMEDICS INC (GEAT) 08.09.77-US-831488
*L02 P32 (04.09.79) *EP---1-147 A61f-01/24*

A stress-reinforced joint prosthesis element for prolonged implantation includes a degree isotropic graphite substrate of the same modulus of elasticity as bone and having a bone joining and an articulating joint surface which result in transverse tensile strain in the element when axially loading; a dense, smooth, low friction wear coating of dense adherent isotropic pyrolytic carbon on the articulating surface; and a metal band in closely conforming relationship with the pyrolytic carbon with a compressive load to produce a strain of less than 0.3% at the perimeter and has a modulus of elasticity 5 times the carbon substrate. The band reduces the tensile strain upon axial loading but does not carry any of the compressive load upon application of skeletal loads. 8.9.77 as 831488. (6pp1376)

JOHJ D22 02572A/02 =US 4166-464

Absorbent bandage contg. thin flexible support film - e.g. of compsn. contg. elastomeric block copolymer and resin component (NL 28.12.77)

JOHNSON & JOHNSON 13.05.77-US-796794 (23.06.76-US-699104)

*A96 P32 P34 +P21 (04.09.79) *DT2728-349 +A61f-17/18*

Highly flexible and conformable disposable absorbent dressing comprises a layer of absorbent material, and a thin flexible, elastic and easily stretchable thermoplastic backing film retained in superimposed relationship with the absorbent layer.

The backing film has (a) an elastic recovery from 50% stretch of $\not>$75%; (b) a rubber modulus of $\not>$ 2000 pounds per sq. inch at 50% elongation; and (c) a Gurley stiffness at a thickness of 1 mil. of $\not>$ 1.

Used to mfr. diapers, surgical and first aid dressings, catamenial dressings, hospital pads, sanitary napkins, etc. 13.5.77 as 796794. (10pp997)

STAD ★ D22 67999B/37 ★US 4166-725

Fuel compsns. stable against microbial growth on storage - contg. biocidal oil-soluble boron cpds. and propylene-di:amine deriv.

STANDARD OIL CO (IND) 15.10.74-US-514496

C01 E12 H06 (C03 E16) (04.09.79) C10l-01/22

Fuel compsn. comprises a major propn. of hydrocarbon fuel boiling at 70-750°F, 0.0005-0.05% by wt. of a mixt. of $2,2^1$-oxybis-(4,4,6-trimethyl-1,3,2-dioxaborinane) (I) and $2,2^1$-(1-methyltrimethylenedioxy)-bis-(4-methyl-1,3,2-dioxaborinane) (II) and 0.0005-0.05% by wt. of a propylenediamine deriv. of formula (III) $H_2NCH_2CH_2CH_2NHR$ (R is alkyl having an average chain length of 11 C).

The fuel compsn. has bactericidal and fungicidal properties and is storage stable against microbial growth even when tetra-alkyl-lead cpds. are absent. Since the (I), (II) and (III) biocides are soluble in the fuel, protection is conferred when it is transferred from tank-to-tank. The combined biocides have a synergistic broad spectrum of activity and are economical. 15.10.74 as 514496. (4pp1248)

SUNO ★ D22 68039B/37 ★US 4166-797

Lubricating oil contg. friction modifying compsn. - comprising co-sulphurised blend of tri:glyceride e.g. lard oil and olefin

SUNTECH INC 15.05.78-US-905910 (19.04.71-US-135466)

E17 H07 (04.09.79) C10m-01/38 C10m-03/32 C10m-05/22 C10m-07/36

The compsn. comprises a major amt. of a lubricating oil and a minor portion of co-sulphurised blend of 70-88 pts. vol. triglyceride (I), whose fatty acid moieties (all hydrocarbon) contain 9-22C atoms, $\not>$45% of them contg. a -C=C- bond, and 30-12 pts. vol. of a 2-24C olefin of formula $R_1R_2C{=}CR_3R_4$ (where R_1, R_2, R_3 are H or alkyl and R_4 is H, (cyclo)alkyl or (alk)aryl). The blend contains 7.5-25wt.% chemically combined S and the compsn. is free of haze after 16 hrs. at 36°F.

The pref. S content is 16-25wt.% (of which 5-18wt.% (based on wt. of blend) is active S. Pref. (I) is lard oil and the olefin is pref. 15-20C α-olefin.

The sulphurised blend is used, as a replacement for sulphurised sperm oil, as a friction modifier for e.g., gear oils, worm and spur gears, transmission fluids, way lubricants, Permawick lubes for sintered bronze or sintered babbit bearings, and as a metal-working oil additive. By sulphurising (I) and the olefin together, the prod. has good lubricity and is soluble in paraffins (separate sulphurisation of the ingredients giving paraffin insoluble pr ds.) 15.5.78 as 905901 (+24.1.72; 14.9.73-US-220399; 397473) (8pp757)

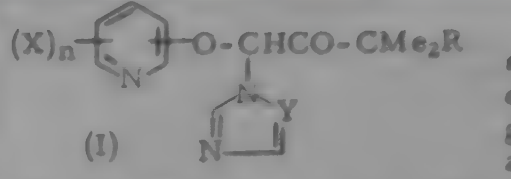
DOWC ★ D22 68067B/37 ★US 4166-854

1-Triazolyl-1-pyridinyl:oxy-2-butanone derivs. - useful as broad spectrum systemic fungicides

DOW CHEMICAL CO 02.11.78-US-956957

A60 C02 E13 (04.09.79) A61k-31/44 C07d-401/06

Butanone derivs. of formula (I) are new. In (I), X is halogen, Me, CCl, CF_3 or CN; n is 0-3; Y is N; and R is Me, MeO or EtO.



(I)

(I) are broad-spectrum systemic fungicides esp. effective against plant pathogens with low phytotoxicity and low mammalian toxicity. (I) are applied at 0.001-10lbs/acre. (I) are also useful additives to inks, adhesives, soaps, cutting oils, polymeric material, oil paints, latex paints, textiles, cellulosic materials esp. wood and lumber etc. to prevent fungal attack. 2.11.78 as 956957 (7pp1248)

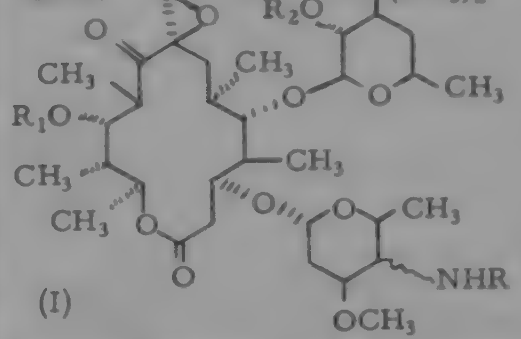
PFIZ D22 49016B/27 =US 4166-90

4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido oleandomycin(s) - antibacterials active against gram-negative an positive bacteria

PFIZER INC 23.10.78-US-952411 (03.01.78-US-866890)

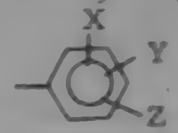
*B03 C02 E13 (D15) (04.09.79) *BE-873-269 C07h-17/08*

Oleandomycin cpds. of formula (I) and their acceptable acid addn. salts are novel and useful as antibacterial agents. (I) are partic active against Gram-positive organisms.



(I)

R is $-CO-CO-R_3$ or $-CS-CO-R_3$. R_3 is



heterocyclyl (thienyl, pyridyl or furyl) or 1-4C alkyl. Each of X and Y is H, Cl, Br, F, 1-4C alkyl or 1-4C alkoxy. Z is X, dimethylamino, NO_2 or NH_2. Each of R_1 and R_2 is H or 2-3C alkanoyl. 23.10.78 as 952411 (21pp393)

LEMC/ D22 19960B/10 =WP 7900-62

Timed cold steriliser - with the timer automatically reset on opening the steriliser

LEMCHEN M S 13.02.78-US-876961

*P34 (06.09.79) *US4141-956 A61l-03*

D/S: N(CH, DT, GB, JA) + E(FR)

A cold sterilizer comprises a tray for containing the sterilant and instruments to be sterilized. A lid fits over the tray. A timer measures the period for which the instruments are to be maintained in the sterilant to effect the sterilization. The timer is reset to its original setting upon lifting the lid from the tray during a sterilization process.

Pref. the lid is locked onto the tray during the sterilizing process and the timer is connected to the lock so that it is locked while the timer is timing a sterilization period. The lid is unlocked when the sterilization is complete.

The appts. automatically assures that objects being cold sterilized are not prematurely withdrawn from the sterilant.

13.02.79 as US0087 (14pp295)

(E) ISR: US1762448; US2462475; US3419346; US3454352; US3454353; US3488142; US3511593; US3579290; US3966408; US2327721.

THIN- ★ D22 68111B/37 ★WP 7900-638

Prodn. of thrombosis resistant surfaces - by treatment with palladium or rhodium salt then with anticoagulant protein

THIN CONDUCTIVE COA (BERG/) 17.02.79-SW-001853

B04 P32 P34 P42 (06.09.79) A61f-01 A61m-01/03 B05d-03/1 C08l-05/10

D/S: N(CH, DT, DK, GB, JA, SW, US) + E(FR).

Surfaces for being contacted with blood that is passed to, or returned to, the blood circulatory system of a human being or an animal are first ensured to be well cleansed. Then a wetting soln. of a Pd or Rh salt is applied to the surface, followed by a soln. contg. heparin, hirudin or other anticoagulant protein, so that a coherent layer of anticoagulant forms on the surface.

A uniform and dense anticoagulant coating on the surfaces is achieved, and it is not removed by the blood flowing over it. Surfaces treated include those of vascular

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31st October 1979

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G	Reel	20	58436 - 61808	B34
J	Reel	26	58576 - 61468	B33
K	Reel	7	52582 - 61533	B33
L	Reel	23	59483 - 61913	B34
M	Reel	28	60272 - 63038	B34

other has one of the above meanings.
(I) are prepd. by subjecting an 8-vinyl-tricyclo/5.2.-

RALSTON PURINA CO 23.01.78-US-871715
F09 (27.08.79) D21h-01/24

10: COMPLETE SPECIFICATION BOOKS

B No. 1159 64701B - 64948B	B36
B No. 1160 64949B - 64990B	B36
B No. 1161 64991B - 66321B	B36
C No. 713 64701B - 64985B	B36
C No. 714 64986B - 60259B	B36

13: COMPANY CODE CARDS

63144B - 64700B	B35

17: MANUAL CODE CARDS

A 146906 - 147213	B33
B 63144B - 64700B	B35
C 63144B - 64700B	B35
D 24456 - 24501	B33
E 63880 - 63989	B33
F 32402 - 32453	B33
G 21843 - 21885	B33
H 14802 - 14832	B33
J 21069 - 21107	B33
K 06594 - 06617	B33
L 29220 - 29347	B33
M 35826 - 35918	B33

19: PUNCH CODE CARDS

B 58011B - 59798B (300 cards)	B32
C 58003B - 59769B (229 cards)	B32
E 56282B - 57999B	B31

Item 19 - The following reissued*/reclassified cards are included in this week's consignment:

Section B: B32 Nil

Section C: B32 Nil

Section E: Nil

NOTE: Section C punch cards do not include 49415B which was issued in B29.

21: PUNCH CODE SEARCH TAPES

A 00001A - 48973B	B26

23: WEEKLY SDI TAPE

Delayed

25: RIN SERVICE

Screen Cards

B Nos. 001 - 042	B32
B Nos. 001 - 027	B33
C Nos. 001 - 022	B32
C Nos. 001 - 014	B33
E Nos. 001 - 036	B31

Weekly Indexes

B, C, E and Overall	B30,B31

Sheets and Cards

52234 - 52269	B30
52270 - 52365	B31

CS MICROFILM BY COUNTRY

PCT	W018	OPI 6.9.79
CA	A1748 - 1749	OPI 2.10.79
FR	2175 - 2176	OPI 3.8.79
DT OLS	3723 - 3726	OPI 11.10.79
SU	371 - 376	
CH	319 - 320	OPI 28.9.79
UK OLD LAW	1138 - 1139	OPI 17.10.79
UK NEW LAW	GB59 - 60	OPI 17.10.79

Delayed Reels

FR	2165 - 2166	OPI 13.7.79

faces is achieved, and it is not removed by the blood flowing over it. Surfaces treated include those of vascular

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Telephone: 01-242 5823/6
Cables: DERWENTINF LONDON
Telex: 267487

31st October 1979

WORLD PATENTS ABSTRACTS PUBLICATIONS DESPATCHED THIS WEEK

Belgian Patents Abstracts	B39
British Patents Abstracts	B38
French Patents Abstracts	B38
German Patents Abstracts	B38
German Patents Gazette	B38
Japanese Patents Report	No. 39 Despatched 29.10.79
Japanese Patents Gazette	B38
Netherlands Patents Report	B38
Soviet Inventions Illustrated	B38
U.S. Patents Abstracts	B38
WPA Journals	B38
European Patents Report (4258 - 4526) Issue No. 21	B40

WORLD PATENTS INDEX

Gazettes Sections P, Q, R and CH	B39 Despatched 31.10.79
Priority Index	B39 Despatched 31.10.79

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(I) are prepd. by subjecting an 8-vinyl-tricyclo[5.2.-

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Central Patents Index
NEWSLETTER

31st October 1979

1979 No. 20

* 1. 1980 SUBSCRIPTION RENEWALS

All Derwent subscribers and online users should now have received 1980 brochures and order forms. Additional sets of these may be obtained on request.

To ensure continuation of your subscription and the incorporation of any changes for 1980, you are urged to submit completed order forms without delay. May we remind you that in addition to the normal postal delays affecting your order, our production figures need to be set some six weeks in advance. If you have not yet renewed may we ask for your cooperation to enable us to make a smooth transition to your 1980 requirements.

We shall be pleased to clarify any points about our products and, if your patent information requirements have changed, to help you evaluate which products and services are now best suited to your needs. Relatively inexpensive changes to your current subscription may well enable you to provide a much more effective service to your own users.

2. ELECTRICAL PATENTS INDEX

Electrical Patents Index (EPI) is an important new service providing for the electrical and electronics industries just the kind of detailed treatment and full indexing previously available only for chemical patents through our CPI service. Plans are now at an advanced stage with the first issue scheduled for January 1980.

An advance copy of the EPI Users Manual and a further copy of the World Patents Abstracts brochure which includes subscription details were despatched to all Derwent subscribers in mid-October. Further copies and additional information may be obtained from Derwent in London.

* 3. DECISIONS FOLLOWING THE 1979 SUBSCRIBER MEETINGS

An addendum to the "Report of Decisions and Points of Action Resulting From 1979 CPI Subscribers' Meetings", which was issued on 25th July, has been prepared and is enclosed with this Newsletter.

other has one of the above meanings.
(I) are prepd. by subjecting an 8-vinyl-tricyclo[5.2.-

RALSTON PURINA CO 23.01.78 US 871715
F09 (27.08.79) D21h-01/24

4. 1979 CENTRALISED INSTRUCTION CLASSES

Centralised Instruction Classes in Washington DC will shortly be held as detailed below.

In recent weeks a large number of new requests and alterations to previous requirements have been received. These are being acknowledged in writing, but should notification not arrive in time delegates can safely assume that they may attend. For this reason details of location and times are given here.

WASHINGTON D. C.

Sheraton National Motor Hotel, Columbia Pike and Washington Blvd., Arlington VA 22204. Tel. (703) 521 1900.

Monday Nov. 12th Tuesday Nov. 13th	IC7	Advanced Coding & Retrieval Sections BCE
Thursday Nov. 15th Friday Nov. 16th	IC6	Advanced Coding & Retrieval Section A

The cost for these centralised classes will be $50 per person per day. Classes will commence at 9.00 a.m. on each day. Participants are asked to bring their own copies of relevant Instruction Manuals for use at these classes.

*5. U.S. OFFICE

Dr. Brian Gore, Marketing Manager is at present available in our U.S.A. Office to answer subscribers' queries until Friday 16th November. From Monday 26th November to Friday 7th December. Mr. George Tobey, Assistant Marketing Manager, will replace Dr. Gore.

Subscribers are reminded that the address of our USA Office is Suite 605, 1735 Jefferson Davis Highway, Arlington, VA 22202, telephone number (703) 521 7977, telex number (international only) 248416 DERW.

* 6. NEW CHEMICAL CODE

A meeting of the coding sub-committee was held in London on 25th and 26th October to discuss comments and suggestions made by members of Subscriber Committee Number 5 on Derwent's latest proposals for a new Chemical Code.

A report of this meeting will be sent during the week commencing 5th November to all members of Committee Number 5. This report will set out our final proposals for the new code which will be presented to all CPI Sections B, C and E subscribers well in advance of the 1980 CPI Subscriber Meetings.

An Instruction Manual on the new code is currently being prepared and will be sent to members of Committee 5 early in 1980 for their evaluation.

7. MAGNETIC TAPE PRODUCTS 1980

A new Instruction Manual - No. 7 - has been printed and a copy sent to all existing subscribers to magnetic tape products. This gives a full description of the tape products available in 1980 which, in several ways, differ from those available previously.

A limited number of further copies are available, on request, from our Data Processing Division.

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laces is achieved, and it is not removed by the blood flowing over it. Surfaces treated include those of vascular

* 8. PLASDOC KEY TERMS IN RELOADED ONLINE FILE

Because of a divergence of opinion amongst subscribers, we are arranging that when SDC reload the file, the Plasdoc Key Terms will be printable as words in the KD line, and also as four digit serial numbers in the KS line.

* 9. SECTION A MULTIPUNCH AND KEY TERMS

We have to announce that due to a fault in computer processing, all Plasdoc Multipunch, Key Terms and Key Serials as applied from Week B06 to date are suspect.

All Punch Codes and Terms generated by Key Serials 2698-2857 (that is, 'Applications') since 09948B are missing from both online files (SDC and InfoLine) and from the Multipunch Search Files.

Re-runs of the B06-B22 data have now been sent to SDC and InfoLine who will inform users by an online message as soon as the data are available. The Multipunch tape updated to B26 will contain correct data.

* 10. WPI ONLINE FILE POSITION

SDC	Loaded to	Awaiting Loading at SDC
Basics/Equivs.	B35	B39
Manual Codes	B33	B37
Multipunch A	B22	B26 and B06-B22 re-run
Plasdoc Key Terms	B10	B26 and B06-B22 re-run
Multipunch B, C, E	B26	B31

* 11. SUBSCRIBER MEETINGS 1980

To remind subscribers who will shortly be planning their diaries for next year, the Derwent Subscriber Meetings in 1980 will be held as follows:-

JAPAN

11-12th March	CPI Meeting - Hotel Okura, Tokyo.
13-14th March	Literature Division - Hotel Okura, Tokyo.

UNITED STATES

9-10th April	CPI Meeting - The New York Hilton.
10-11th April	Literature Division - The New York Hilton.

EUROPE

14-16th April	CPI Meeting - The Amsterdam Hilton.
17-18th April	Literature Division - The Amsterdam Hilton.

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REPORT OF DECISIONS AND POINTS OF ACTION

RESULTING FROM 1979 CPI SUBSCRIBERS' MEETINGS

Modifications to 25th July Report - 31.10.79

As a result of feedback from subscribers, and further investigation, the following modifications to, and comments on, the decisions given in the above report should be noted.

(1) US Divisions

Reason for restriction to Sections A, B, C and E is that only in these sections is punch coding applied, the divisions being made basic so that the narrower claimed material may be coded.

(2) Australia

Additional bibliographic data now appearing in the Official Journal only applies to accepted patents; whereas it still does not appear for the more interesting unexamined documents.

(8) Inventors

Contrary to what has been reported, we have now decided to have programs written which will permit up to eight inventors to be included on our files, not the three limit as at present. It is anticipated that this feature will be ready around mid-1980. For all but Soviet inventions, the number of inventors will not be restricted to three, but as many as eight will be included. We should point out that any one name is restricted to the first ten letters of the surname, and up to three initials of the given name.

(14) Machine Readable Abstracts

As an experiment, the alerting abstracts of all patents in Electrical Patents Index - starting 1980 - will be searchable and printable on tape and on-line. If the venture is popular and sufficiently useful, it may be extended to other areas badly served by retrieval tools.

(17) SDI Search Facility - restricted access

Contrary to what was reported, we are re-examining with SDC the possibility of arranging for a SDISEARCH facility, making certain that the manual codes are updated at the same time as the bibliography.

In view of this, and because the 'four or more unit' concession has proved detrimental to our pricing structure, as from beginning of 1980 subscribers will only be able to search manual and punch codes for sections to which they have a full basic subscription.

Where subscribers feel that they may wish to search occasionally manual and/or punch codes in sections to which they do not have a basic subscription, a separate ID will be issued for unrestricted access at $120 per hour. Such ID may be withdrawn if, in the opinion of Derwent, usage is greater than 'occasional'.

* (18) Plasdoc Key Terms

When the online files have been reloaded around mid-February 1980, the Plasdoc Key Terms will be printable as numbers and/or descriptors; and the words in the descriptors will be searchable.

(20) On-line Access in Japan

Arrangements have now been completed with SDC who, through their Japanese subsidiary, will have all the Derwent files operating on Orbit IV from a

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other has one of the above meanings.
(I) are prepd. by subjecting an 8-vinyl-tricyclo[5.2.-

RALSTON PURINA CO 23.01.78-US-871715
F09 (27.08.79) D216-01 '34

computer in Tokyo as from December 3rd 1979. Three Derwent technical people will be giving instruction in Tokyo in December, and an access fee of 28,600 yen per hour will be charge for the first two years at least, with no signing-on fee or minimum usage.

(21) On-line print format

With re-loading of the files early in 1980, the following changes will be made:-

(1) Accession number line AN will have the full Derwent classes transferred to it following the accession number

(2) All priorities will be printed on a single PY line

(3) In the CC line, the Company Code will precede the Company Name, for sorting off-line prints

(4) All dates in search and print file (On-line only, not tapes) will be in Year/Month/Data order, for sorting off-line prints

(5) New line after PI line will contain Publication Date (taken out of PI) then basic patent number (taken out of TI) for ease of correction. The FM line will remain unchanged.

(23) - (27) New Chemical Code

Sub-committee is meeting October 25-26th to finalise proposals to be circulated to all coding committee members who will then meet around February to agree final format to be finally vetted at Spring subscriber meetings. Manuals will then be prepared, our own staff taught the new code as well as subscribers, so that coding proper can start Autumn 1980 or - if thought more prudent - beginning of 1981.

(31) Subscriber respresentative committees

Envisaged that these will meet around mid-February 1980, since we are of the opinion that their best function is to lay the foundation of recommendations to be placed before the full subscriber meetings in the Spring.

* (32) Manuals

Contrary to what was stated in the notice which went out 25.10.79, there will be four editions as given in the appendix. Moreover, due to the fact that the chemical code is being revised Instruction Manual No. 3 will not be ready until towards the end of January 1980.

(39) Electrodoc

Because Chemical Business Database has been abandoned at least for the present because of copyright problems, an Electrical Patents Service known as Electrical Patents Index (EPI) is being started in 1980. It is described in the World Patents Abstracts brochure, and in a special Instruction Manual.

Additional On-line Search Parameters

Following planned to be operational once SDC file reloaded early 1980:-

(a) Basic patentee date, for ranging

(b) All priority dates

(c) Section letters

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APPENDIX

INSTRUCTION MANUALS

By the end of the year, all the manuals listed below, with the exception of Instruction Manual No. 3 which will not be ready until the end of January 1980, will be issued in loose-leaf form in binders. All CPI/EPI subscribers will receive free of charge one copy of Instruction Manuals Nos. 1 and 2. All subscribers to Sections B, C or E will receive a free copy of Instruction Manual No. 3 and Section A subscribers a free copy of Instruction Manual No. 4.

Further copies of any one manual may be ordered from our Patents Supply Division at a cost of £5.00, $12.00 or Y3,000.

Each free copy, or each copy ordered, of any manual will give entitlement to receive a binder and replacement pages automatically for at least the next two years.

I.M. No.1: CPI/EPI GENERAL INSTRUCTION MANUAL

- 1A CPI User's Manual - General
- 1B EPI User's Manual - General
- 1C Online Instruction Manual
- 1D Magnetic Tape Products

I.M. No.2: CPI/EPI GENERAL RETRIEVAL MANUAL

- 2A Company Code Manual
- 2B Manual Code Manual - CPI
- 2C Manual Code Manual - EPI
- 2D List of Standard Thesaurus Terms

I.M. No.3: CPI CHEMICAL RETRIEVAL MANUAL

- 3A Chemical Punch Code Manual
- 3B Chemical Coding - Aids to Retrieval
- 3C Manual Codes for CPI Sections B, C and E

I.M. No.4: PLASDOC RETRIEVAL MANUAL

- 4A Plasdoc Punch Code Manual
- 4B Plasdoc Key Terms
- 4C Plasdoc Coding - Aids to Retrieval
- 4D Plasdoc Coding - Alphabetical Codes
- 4E Plasdoc Manual Codes

other has one of the above meanings.
(I) are prepd. by subjecting an 8-vinyl-tricyclo[5.2.-

RALSTON PURINA CO 23.01.78-US-871715
F09 (27.08.79) D21h-01/24

faces is achieved, and it is not removed by the blood flowing over it. Surfaces treated include those of vascular

ostheses, catheters etc., which are then thrombosis sistant.

.2.79 as SW0035 (8pp1248)
) ISR: US2702253; US3549409; 2 Journal References.

D23: OILS; FATS; WAXES

ET D23 68240S/43 =DS 2116-894
mperature control of fluid reactionmixtures
CHEMETRON CORP 08.04.70-US-026509
*R26 (06.09.79) *DT2116-894 C11c-03/12*

the hydrogenation of unsatd. oils in batches, the oil is st heated by condensn. of the pressurised evaporated ating medium to create a quantity of fluid medium in at exchange with the oil. The desired hydrogenation mp. is achieved by reducing the medium pressure, evaporating a part of it and exothermically hydrogenating. en the hydrogenation has been completed, the pressure the liquefied medium is further reduced and the oil is oled by the fluid medium.

The result is more economical and more exact temp. ntrol of the hydrogenation process of unsatd. oils. 4.71 as 116894 (6pp39)

RA D23 72682Y/41 =DS 2613-645
nnamaldehyde hydrogenation to odoriferous ydrocinnamaldehydes - comprising heating initial reaction mixt. der hydrogen to reaction temp. (nl 4.10.77)
HERAEUS W C GMBH 31.03.76-DT-613645
*E17 (06.09.79) *DT2613-645 C07c-45 C07c-47/48*

nnamaldehyde or its derivs. are selectively hydrogenat- in presence of a palladium catalyst on an active carbon rrier and an aq. alkaline soln. of an alkali metal cpd. eaction is carried out at a temp. of ≥ 40 °C and under a drogen pressure of > 1 bar. The reactants and catalyst e heated to reaction temp. under a hydrogen atmos. and en the reaction temp. is reached the hydrogen is partly completely renewed.

The dihydroaldehyde prod. is obtd. in good yield with a duced reaction time and may be used in perfumes. .3.76 as 613645 (3pp068)

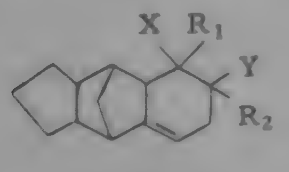
NIL D23 19676A/11 =DS 2740-752
rifying tri:glyceride cpds. by adding hydratable phosphatide - efore sepn. esp. by adding water and centrifuging
UNILEVER NV 10.09.76-GB-037643
*C03 (06.09.79) *BE-858-585 C11b-03/02*

urificn. of raw or pre-treated triglyceride oils compris- mixing with an opt. modified hydratable phosphatide. ater is then added, opt. followed by acid or an anhydride break up the emulsion, and the phases are sepd. by cenfuging.

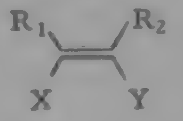
A pref. phosphatide is a hydratable lecithin fraction. 9.77 as 740752 (9pp047)

ADI D23 19364Y/11 =GB 1552-166
olycyclic Diels Alder adduct perfume cpds. - e.g. by reacting vinyl icyclo decene with a dienophilic cpd. e.g. acrolein etc.
BASF AG 01.09.75-DT-538790
*E15 (12.09.79) *NL7608-838 C07c-35/44 C07c-47/44 C07c-49/61 C07c-61/28 C07c-69/74 C07c-121/48*

iels-Alder adducts of formula (I) are new.



(I)



(II)

In (I), R_1 and R_2 are each H or CH_3, or together form a further bond between the C atoms on which they are present; and X and Y are each $-CH_2OH$, $-CH(OH)-CH_3$, $-COOH$, $-COOCH_3$, $-COOC_2H_5$, CHO, $-CO-CH_3$, $-CO-C_2H_5$ or -CN, or X and Y together re -CO-O-CO-, or one of X and Y is H or CH_3 and the ther has one of the above meanings.

(I) are prepd. by subjecting an 8-vinyl-tricyclo[5, 2, 1, $0^{2.6}$]-decan-8-ol to a Diels-Alder reaction with a dienophile of formula (II), and, if X and/or Y is ultimately intended to be $-CH_2OH$ or $CH(OH)CH_3$, the corresp. cpd. where X and/or Y is -CHO, $-COCH_3$ or -COOH is reduced.

(I) are used as constituents of perfumes or for perfuming a body care prod., detergent or other consumer prod., 31.8.76 as 035946 (5pp936).

SHEL D23 44352A/25 =GB 1552-368
Branched chain di:olefin prodn. - by disproportionation of higher homologue and iso:olefin, for use as aromatising agents and intermediates (NL 13.6.78)
SHELL INT RES MIJ BV 09.12.76-GB-051472
*E17 (12.09.79) *DT2754-540 C07c-03/62*

Branched olefins of formula $R_1R_2C=CR_4-X-CR_3=CH_2$(I) are produced by reacting a cpd. of formula $R_1R_2C=CR_4-X-CR_3=CHR_5$ (II) with an isoolefin of formula $R_6R_7C=CH_2$ (III) in the presence of a disproportionation catalyst.

In the formulae R_{1-3} are 1-4C alkyl, R_4 is H or 1-4C alkyl; X is an ≤ 8C bivalent hydrocarbyl gp.; R_5 is 1-4C alkyl; and R_{6-7} are 1-4C alkyl. In (II), X may be satd. or may contain an unsatd. linkage, which must not be conjugated with either of the other double bonds and must carry an alkyl gp. on ≥ 1 of the C atoms involved.

Some of the olefins are useful as intermediates for aroma chemicals. A typical process gave 90% total yield and 77% selectivity to a desired component. 7.12.77 (4pp).

NATW D23 06183B/04 =GB 1552-397
Demethylation of choline-contg. phospholipid(s) - by reacting with 1,4-diaza:bi:cyclooctane in hydrocarbon and/or DMF soln.
NATTERMANN A & CIE GMBH 27.06.77-DT-728893
*E11 (D13) (12.09.79) *DT2728-893 C07f-09/10*

A phosphatidyl choline or sphingomyelin is demethylated by treatment at elevated temp., opt. mixed with other vegetable or animal phospholipids, with 1,4-diazabicyclooctane.

Pref. treatment is in an inert aliphatic or aromatic hydrocarbon solvent, which may be chlorinated, or DMF, and under an inert atmos.. Pref. treatment is at reflux. The reaction mixt. may initially contain a cephalin, which is methylated by the treatment.

Cephalin-free phospholipid fractions are obtd. Prods. are oil-in-water and water-in-oil emulsifiers. 13.7.77 as 029500 (4pp992).

KDFO= ★ D23 67504B/37 ★SU -636-251
Ethereal oils extn. from seeds - by repeated extn. with corresp. seed oil and phase sepn. using liquid carbon di:oxide
KRASD FOOD IND RES 25.12.75-SU-304514
(15.12.78) C11b-09/02

Efficiency of extn. of ethereal oils such as coriander or aniseed oil from the seeds, is improved when the raw material is chopped repeatedly in the fatty oil of the same vegetable origin.

This is followed by sepn. of phases and extn. of the oil from the liquid phase with liquid CO_2 at room temp.

Tests show that use of the above method increase the % extn. of e.g. coriander oil from 1.08; to 1.4% i.e. by 30.6%.

Bernat Ya.F., Demidov Yu.S., Evstigneeva N.M., et al. Bul. 45/5.12.78 25.12.75 as 304514 (2pp124)

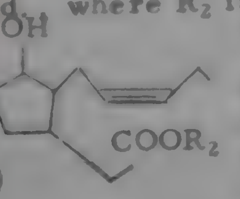
RALS ★ D23 B/37 ★SW 7900-558
Protein binder prodn. from oil seeds - using lipoidal substances to enhance binding properties, giving high solid content without pigment shock
RALSTON PURINA CO 23.01.78-US-871715
F09 (27.08.79) D21h-01/24

The protein fraction is isolated from oily seeds by using lipoidal substances, esp. substances that promote surface activity to enhance the binding props. of the protein.

The process allows a higher proportion of solids in the coating compositions at a given viscosity. It also eliminates the pigment shock that can be troublesome in the use of water-soluble binders such as oil seed proteins.
22.1.79 as 000558 (-pp1407)

SAKB D23 14432B/08 =US 4166-188
2-(2-Pentynyl)-cyclopentanol derivs. - useful intermediates for jasmone cpds., used in perfumery
OTSUKA KAGAKU YAKUHIN 12.08.77-JA-097181
*E15 (28.08.79) *DT2824-844 C07c-69/74*

A 2-(2-pentynyl) cyclopentanol deriv. of formula (I) is prepd., where R_2 is a lower straightl or branched chain alkyl, alkenyl or aralkyl.



(I)

(I) is prepd. by subjecting a cis-2-butenate deriv. prepd. by the electrolytic oxidation of furfuryl alcohol to a condensation reaction with an acetoacetate; then reacting the intermediate prepd. with pentynyl halid, then subjecting the prod. formed to ring closure directly or after hydrolysis.

The intermediate formed is decarboxylated selectively in the presence of an aromatic solvent and a sulphonic acid catalyst, and reduced in the presence of an aliphatic alcohol solvent and a reducing agent such as lithium aluminium hydride.

The prod. formed is useful as intermediates for the synthesis of jasmonoid cpds., which are important as perfumes. 8.6.78 as 913690(4pp931)

SUNO ★ D23 68038B/37 ★US 4166-796
Friction modifying compsn. - prepd. by co-sulphurising a blend of tri:glyceride, e.g. lard oil and an olefin
SUNTECH INC 15.05.78-US-905909 (19.04.71-US-135466)
E19 H07 (04.09.79) C07g-17 C09b-49 C10m-01/38 C10m-05/22

The compsn. comprises a co-sulphurised blend of 50-90 (pref. 88-70) pts. vol. of a triglyceride (I), the fatty acid moieties (all hydrocarbons) of which contain 9-22C atoms ($\geqslant$45% of them contg. one -C=C- bond) and 50-10 (pref. 12-30) pts. vol. of a 2-24C olefin of formula $R_1R_2C=CR_3R_4$ (where R_1, R_2, R_3 are H or alkyl and R_4 is H, alkyl, aryl, cycloalkyl or alkaryl). The blend contains 16-25wt.% of chemically bound S, of which 5-18wt.% is active. Also claimed is a blend as above contg. 7.5-25wt.% chemically bound S.

The compsn. is used, as a replacement for sulphurised sperm oil, as an additive for friction modifiers in lubricant formulations, e.g. in gear oils, worm and spur gears, transmission fluids, way lubricants, Permawick lubes for sintered bronze or sintered babbit bearings, and as a metal-working oil additive. By sulphurising (I) and the olefin together, the prod. has good lubricity and is soluble in paraffins (separate sulphurisation of the ingredients giving paraffin insoluble prods.). 15.5.78 as 905909 (+24.1.72-US-220399) (8pp959)

LIPT- D23 67306W/41 =US 4166-823
Purificn of crude phosphatides - by treating with a mixt of hydrophobic and aq liqs and recovering the prod from the organic phase
LIPTON T J INC (UNIL) 22.03.74-GB-012927
*(D13) (04.09.79) *BE-827-026 A23j-07 C07f-09/02 + C11c-03*

Transparent phosphatides are produced from crude phosphatide sludge by (a) before alkali refining, treating sludge with (i) an aliphatic, cyclic or aromatic hydrocarbon in an amt. of 200-2000(400-600)vol.% and (ii) H_2O in an amt. of 5-150(50-100)vol.% (the vol.% being w.r.t. phosphatide content of the sludge); (b) sepg. the hydrophobic liq. (i) and the water; and (c) recovering the transparent phosphatide prod. from the hydrophobic liq.

Pref. hydrophobic liq. is a satd. aliphatic hydrocarbon esp. hexane. Pref. vol. of hydrophobic liq. is 1-3 times vol. of phosphatide plus water.

Prod. is improved w.r.t. odour, taste and oil-solubility properties. Prod. can be used in foods e.g., margarine. Process is esp. advantageous when applied to phosphatides which have been hydrolysed by pancreatin.
18.4.77 as 788238 (+17.3.75; 20.8.76-US-559231; 716101) (3pp963)

ALLL ★ D23 68059B/37 ★US 4166-836
Multi-tube fat rendering appts. - with transfer chutes extending beyond tube ends to allow entire tube length for rendering
ALLEGHENY LUDLUM INC 25.10.77-US-845438 (03.09.76-US-720407)
(04.09.79) B01d-43 C11b-01/16

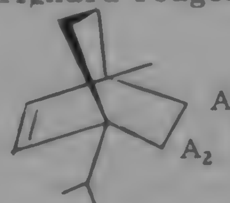
Appts. includes horizontal cylinders arranged one above the other with the discharge of one cylinder being connected with the inlet of the adjacent lower cylinder. The cylinders are heated and the contents of each cylinder are agitated. Vaporised moisture is vented and vacuum is created in each cylinder.

The discharge opening at one end of a cylinder is connected by a chute to the underlying inlet, the chutes extending beyond the end of the cylinders. The discharge openings are L-shaped and each have a curved surface extending only along a portion of the lower half of the cylinder. The opening is aligned with the inner periphery of the cylinder and extends only over a portion of the lower half of the cylinder with its highest point being on the curved surface in the direction of rotation of the agitator.

The appts. is used for the continuous rendering of fat from animal materials. The entire length of the tubes is used for improved heat transfer to the material.
25.10.77 as 845438. (9pp295)

INFL ★ D23 68096B/37 ★US 4166-916
Bi:cyclooctene Grignard reagents - useful as intermediates for corresp. alkanol(s) for enhancing organoleptic properties of perfumes
INT FLAVORS & FRAGR INC 08.06.78-US-913697 (23.03.77-US-780685)
E12 (04.09.79) C07c-35/22 C07f-03/02

Grignard reagents of formula (I) are new:



(I)

In (I), either (a) A_1 is $\overset{\frown H}{\text{CHMe-OMgX}}$ and A_2 is H_2; or (b) A_1 and A_2 are interchanged; and X is Cl, Br or I. The wavy lines represent exo and endo configurations of the nucleus w.r.t. the organometallic oxyethane moiety.

(I) are intermediates for hydrolysis to the corresp. alkanols; which are useful for enhancing the organoleptic properties of perfumes, tobaccos, perfumed articles etc.
8.6.78 as 913697 Div ex 4128729 (19pp1248)

See Also

D13 DS 2002169

D24: SOAP; SOAP DETERGENTS

MOLE- D24 31907X/18 =DS 2553-103
Inorganic monomer and polymer complexes contg. metals - for soap production in washing prepns. and plating solns
MOLECULAR ENERGY RE (MERK/) 17.11.75-US-631949 (26.11.74-US-527355)
*A41 E37 M11 (D25) (06.09.79) *BE-835-992 C01g-57*

Inorganic polymer complexes are produced by reacting in an aq. medium $\geq$1 non-alkali metal (NAM) of gps. I-VIII, an alkali metal hydroxide (AMH) and a source of NH_2 gps. The NAM is mixed with the aq. medium and the NH_2 source is added. The AMH is mixed in such a way, the intimate contact between the AMH ions and the NAM is achieved and a region of a pH of nearly 14 is created in the immediate vicinity of the NAM.

The rate of adding the AMH is such, that considerable amts. of NH_2 gps. are bound to the AMH and NAM by an endothermic reaction. The reaction mixt. is allowed to react afterwards exothermically in the reaction vessel. The reaction is terminated by removing excess NAM from the reaction mixt. Aq. NH_3 is pref. used as the source of NH_2 gps. Pellets of AMH are pref. added. The NAM is pref. Si or Al.

The polymers can be produced in contradiction of classical chemical theory. Clear aq. solns. or solid polymers can be obtd. They can be used in chemical or electrolytic metal coating processes, esp. for metals difficult to plate by conventional processes. They can also be used to produce decorative or precious gems. 26.11.75 as 553103 (38pp260)

LIOY D24 11111A/06 =J7 9024-404
Liquid toilet soap compsn. - having a high cleaning effect, foaming ability and stability at low temp.
LION FAT & OIL KK 18.06.76-JA-071838
*E34 (21.08.79) *J52154-808 +C11d-17/08*

A liquid soap compsn. (I) contains 5-10 wt.% of high grade soap prepd. from the mixt. of oleic acid and palmitic acid (having a wt. ratio of 70:30 - 40:60), 38 wt.% of moderate grade soap prepd. from a 10-14C satd. fatty acid, 5-15 wt.% of alkali carbonate, solubilising agent and water. The total soap components are $\not>$ 15 wt.% and alkali carbonate is $\not<$100 wt.% of the high grade soap.

Pref. satd. fatty acid soap of 10 14C (i.e. principally composed of lauric acid soap) is used in an amt. of 3-8 wt.% to improve foaming ability and stability at low temp. The alkali carbonate pref. a K salt improves the cleaning effect for acidic stain, and may opt. be replaced by a Na salt.

(I) has a high cleaning effect, foaming ability and stability at low temp. 18.6.70 as 071838 C11d-17/08 (21.8.79) LION FAT & OIL KK (4pp)(J52154808)

D25: OTHER DETERGENTS

DEGS ★ D25 66331B/37 ★BE-874-632
Sodium percarbonate particles coated with dehydrated sodium perborate - prepd. by spraying with a supersaturated perborate soln. and a silicate soln.
DEUTSCHE GOLD & SILBER 10.03.78-DT-810379
E34 (05.09.79) C01b C11d

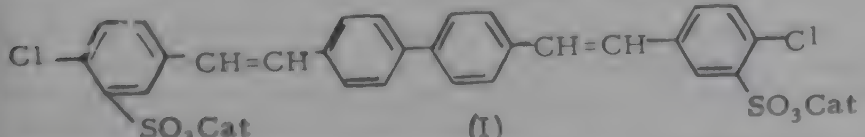
Sodium percarbonate particles consisting of a sodium percarbonate nucleus coated with dehystrated sodium perborate and sodium silicate are prepd. by spraying the percarbonate with a super-satd. soln. of sodium perborate and a sodium silicate solution, followed by drying to eliminate all or part of the added water.

Pref. the sodium percarbonate starting material contains 1-10% by wt. of water, and the sodium silicate soln. used has a compsn. such that the wt. ratio of SiO_2 to Na_2O is 3.2-3.8.

The process is simpler than that of the parent patent yet gives products of practically identical stability. 5.3.79 as 874632 Add to 860762 (8pp1365)

HENK ★ D25 66463B/37 ★DT 2808-927
Liq. detergent for washing textiles - contains di:sulphonated di:phenyl-di:styryl cpd. as optical whitener giving storage stability
HENKEL KG AUF AKTIEN 02.03.78-DT-808927
E24 F06 (06.09.79) C11d-03/42 D06l-03/12

A clear liq. detergent contains anionic, nonionic and/or zwitterionic surfactants, and 0.002-0.4, pref. 0.05-0.25 wt.% diphenyl-distyryl cpd. of formula (I).



(I)

(in which Cat is an alkanolamine, pref. triethanolamine) as optical brightener. The soln. contains $\leqslant$ 0.5 wt.% alkali metal ions and $\leqslant$ 0.04 wt.% alkaline earth metal ions.

The compsn. is stable at high and low storage temps., has high detergent power and gives a pure white brightening. It is also resistant to active Cl cpds., making it esp. useful for medium washing temps. (40-60°C) using Cl bleach cpds. 2.3.78 as 808927(11pp016)

ALBR ★ D25 66536B/37 ★DT 2904-486
Conc. aq. surfactant compsn. forming lamellar phase - contains contains cationic, nonionic and/or further cationic and/or amphoteric surfactant
ALBRIGHT & WILSON LTD 07.02.79-DT-904486 (07.02.78-GB-004817)
(06.09.79) B01f-17 C11d-01/83

Aq. surfactant compsn. consists of 10-55 wt.% water and of a mixt. of surfactants. The mixt. of surfactants consists of $\geqslant$ 5 wt.% of a first cationic surfactant, (I), together with $\geqslant$5 wt.% of $\geqslant$1 nonionic surfactant, (II), and/or $\geqslant$1 other cationic surfactant, (III), which is not homologous with (I), and/or $\geqslant$ 1 amphoteric surfactant (IV). In the presence of water, the mixt. exhibits a ''G''-phase (or lamellar phase) at $\leqslant$ 23°C and the concn. of the active mixt. materials corresponds to that at which the compsn. can exist, at least predominantly, in the ''G'' phase.

Conc. pumpable mixts. can be obtd. allowing economy in transport and storage. The more strongly active compsns. have bacteriostatic properties. The compsns. can be diluted without forming an intermediate gel phase. 7.2.79 as 904486 (31pp200)

INOU- ★ D25 66729B/37 ★J5 4096-503
Cleaning compsn. for automobile windscreen - contains colloidal silica, anionic or nonionic surfactant, PVA and glycol
INOUE KAGAKU KOGYO 13.01.78-JA-002941
E17 (E14 E34) (31.07.79) C11d-03/08

The cleaner contains approx. 0.5-30 wt.% (as SiO_2) colloidal silica, having a siloxane structure, an appropriate amt. of an anionic surfactant, e.g. alkylsulphates, olefinic sulphates, alkylbenxenesulphonates, oleic amide sulphonates, etc., or a nonionic surfactant, e.g. polyoxyethylenealkylether, polyoxyethylene fatty acid esters, polyethylenealkylphenolether, polydric alcohol fatty acid

D24

The ... .thylenepolyhydric alcohol fatty acid est- ... ner with, as needed, approx. 0.05-0.3 wt. ... cohol and approx. 5-20 wt.% a glycol, e.g., ... ol, propyleneglycol, etc.

... aner is capable not only of effectively cleaning ... resin, wax, etc., on the window glass but also of p... nting the spread of wax and resins over the window glass of automobile when rain falls. The cleaner may also include a rust inhibitor and a stabiliser, e.g., a small a amt. of Na, K or Li hydroxide, etc. 13.1.78 as 002941 (3pp117)

POKK ★ D25 66881B/37 ★J5 4097-609

Creamy detergent compsn. - contg. branched higher fatty acid

POLA KASEI KOGYO KK 19.01.78-JA-004603

E17 (01.08.79) C11d-09/26

Creamy detergent compsn. contains 0.2-20 wt.% of $\geqslant$1 16-20C branched higher fatty acid (I). Prod. has a satisfactory lathering property, and no harmful effect on the skin. It can be packed in a tube to provide a conveniently portable shaving cosmetic prod.

Pref. (I) include 2-hexyl decanoic acid, 2-methylhexadecanoic acid, 2-ethyl-2-methyltetradecanoic acid, 2-heptyl-undecanoic acid, 5,7,7-trimethyl-2-(1,3,3-trimethylbutyl)-octanoic acid, 2-prop ylhexadecanoic acid, 2-methyl-9-octadecenoic acid, 2-octyldodecanoic acid etc. β-branched fatty acids are more pref. 19.1.78 as 004603 (5pp126)

NISS- ★ D25 67092B/37 ★J5 4099-106

Detergent compsn. - comprises 3-methyl-3-methoxy-butanol, specified surfactant(s) and organic assisting detergent selected from organic acids

NISSAN SEKKEN KK 23.01.78-JA-006327

E17 (04.08.79) C11d-03/20

A detergent composition exhibiting no stimulative odour, capable of easilu removing a difficult stain comprises 0.5-15 wt.% of 3-methyl-3-methoxybutanol, $\geqslant$ 1 wt.% of surfactant(s) selected from ethoxylated nonionic surfactant, straight chain alkyl benzene sulphonate and alkylethoxysulphonate etc., and 1-30 wt.% of org. assisting detergent selected from malic acid, glycolic acid, citric acid and tartaric acid.

The water-sol. org. acid, e.g. malic acid etc. is pref. used as the assisting detergent esp. in the removing stains in bath room or wash basin, and an amine, e.g. monoethanolamine, diethanolamine and triethanolamine etc. is used as the assisting detergent in the case of removing stains in ventilation fan etc.

If necessary, an inorg. assisting detergent, e.g. water and pyrophosphate, solubilising agent, perfume, dye-stuff, bleaching agent and anti-septic agent etc., may also be added. 23,1,78 as 006327(4pp34)

KAOS D25 46159Y/26 =J7 9023-870

Bleaching compsns. releasing hydrogen peroxide in aq. soln. - comprising acetylated prod. of ethylene oxide adduct of a polyol with vicinal hydroxyls and a peroxide

KAO SOAP KK 14.11.75-JA-137086

*A97 (A25) (16.08.79) *J52061-187 C11d-07/54*

Compsns. comprise acetylated prod. of ethylene oxide adduct of polyhydric alcohol with vicinal hydroxyl gps. and peroxide producing or releasing hydrogen peroxide in aq. soln.

Polyhydric alcohols are e.g. glycerine, erythritol, glucose, mannose, xylose, sorbitol and sugar. Ethylene oxide is pref. added at 1-3 moles per hydroxyl gp. Peroxides precursors are e.g. sodium perborate, sodium percarbonate and sodium persulphate.

The bleaching compsns. have good solubility in water and good bleaching at ambient temps. 14.11.75 as 137086 C11d-7/54 (16.8.79) KAO SOAP KK (3pp43)(J52061187)

FARH D25 04109Y/03 =J7 9023-914

Alkali phosphates with high degree of whiteness - where vanadium and iron are removed using sodium hydroxymethane-sulphinate (NL301276)

HOECHST AG 28.06.75-DT-528895

*E34 (E12) (17.08.79) *DT2528-895 C01b-25/30*

Process for mfg. alkali phosphate solns. with a low vanadium content, from phosphoric acids, obtd. by the wet process and which contain V and Fe. The V and Fe are converted to their lower oxidn. states by a reducing agent, and the acid neutralised with alkali lyes and/or alkali carbonates to obtain pH $\geqslant$ 3, and a ppte. which is removed. The reducing agent is sodium hydroxymethane-sulphinate (SHMS). The SHMS is pref. used as a soln. in 10-30 wt.% caustic soda lye, esp. using 800-1000% of the SHMS w.r.t. the vanadium present in the phosphoric acid.

The alkali phosphates are converted into washing agents but if any V is present it colours the washing agent and such colouring is extremely undesirable. In treating crude H_3PO_4 contg. 100 kg. P_2O_5 and 0.5 kg. Fe, 1.7 kg. sodium dithionite are needed as the reducing agent. By comparison, for the same amt. of acid only 0.5 kg. SHMS ($NaSO_2$-CH_2OH) is required to reduce V and Fe, and the V removal is quantitative. The SHMS has no smell, is stable in air, and the redn. time required is very short. 25.6.76 as 075391 (clg.28.6.75-DT-528895) C01b-25/30 (17.8.79) HOECHST AG (3pp)(J52005699)

TEXC ★ D25 67361B/37 ★NL 7901-471

Detergent and surfactant ether sulphonate cpds. prepn. - by sulphonating alcohol(s) with an alkali metal hydroxy alkyl sulphonic acid salt

TEXACO DEV CORP 27.02.78-US-881286

E12 H01 (29.08.79) C07c-143/11

Ether sulphonates R-O($R_3$$\rightarrow$$SO_3$A (I) (where R is 2-22C alkyl, alkenyl, hydroxyalkyl or hydroxyalkenyl an aralkyl with 1-18C alkyl gp(s)., a 7-28C aralkyl or one of their polyether derivs.; R_3 is alkylene; and A is an alkali metal cation) are made by liq. phase reaction of an alcohol ROH (II) with a solid alkyl sulphonic acid salt HO-R_3-SO_3A (III) added under reduced pressure of $<$300 mm Hg. A small amt. of (I) is present at the start of the reaction. An inert gas is dispersed continuously through the liq. reaction mixt for at least the greater part of the reaction.

The sulphonation is carried out without using eg. conc. H_2SO_4 as sulphonation agent, thus reducing the problems of corrosion of the appts. and salt formation on neutralisation of the prod. The sulphonation agent (III) is a solid which is soluble in (II), thus allowing improved control over the reaction. The prods. are light coloured liquids, useful as detergents and surfactants, e.g. in oil recovery processess.26.2.79 as 001471(19pp513)

PROC ★ D25 678708/37 ★US 4166-039

Homogeneous spray-dried granular detergent compsn. - contg. clay mineral, alkoxylated nonionic surfactant, and detergency builder

PROCTER & GAMBLE CO 23.06.75-US-589116 (15.10.73-US-406412)

A97 E19 (28.08.79) C11d-01/72 C11d-03/07 C11d-07/02

Homogeneous spray-dried granular detergent compsn. contains: (a) 0.5-40 wt.% naturally derived clay mineral (I); (b) 2-60 wt.% of $\geqslant$1 alkoxylated nonionic surfactants (II); and (c) 5-50 wt.% detergency builder (III).

(I) is a kaolinite (mean particle size $\leqslant$ 1 μ) or bentonite (mean particle size $\leqslant$ 75 μ) free of organic modifying gps. Wt. ratio (II):(I) is 6-1:1-2. (III) is an alkali metal or opt. substd. NH_4 (in)organic builder salt, but a phosphate when (II) is a bentonite clay, and a non-phosphate when (II) is a kaolinite clay.

Stable, homogeneous compsns. do not separate giving an oily phase contg. (II). In addn., compsns. may contain substantial amts. of (II) but do not need phosphate ester couplers. 23.6.75 as 589116 (14pp478)

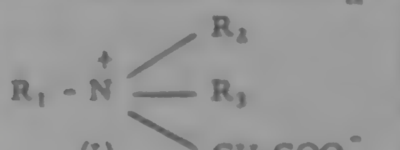
KAOS D25 07609Y/05 =US 4166-048

Nonirritating liquid detergent compsn. - contg. amphoteric betaine surfactant and polyethoxylated alkyl sulphate salts in aq. soln.

KAO SOAP KK 22.09.75-JA-114510

*E12 (E16) (28.08.79) *BE-846-393 C11d-01/14*

A liq. detergent compsn. is prepd. comprising 5-40 wt.% of a mixt. of polyoxyethylene alkyl ether sulphate salts of formula $RO(CH_2CH_2O)_nSO_3M$. and a betain type amphoteric surface active agent of formula (I). the wt. ratio of (II) to the polyoxyethylene alkyl ether sulphate salt mixt. being 0.01-2·1.



$$R_1-\overset{+}{N}(R_2)(R_3)CH_2COO^-$$

(I)

In the formulae, R is 11-16C alkyl, n is 1.0-2.6, such that

hen n is 0, the content of such cpd. is 0-5 wt.%. M is a
nono- or divalent metal ion, such that cpds. having a div-
lent metal ion as M comprise 15-98 wt.% of the entire
nixt. R_1 is 8-20C alkyl, and R_2 and R_3 are each 1-3C alk-
ls.

The detergent compsn. prepd. has high washing power
nd a very mild action on the skin, so as not to cause cha-
ping of the skin or hands. 26.4.78 as 900178 (+21.9.76-
S-725182)(4pp931)

COLG ★ D25 68037B/37 ★US 4166-794

**iq. bleach and fabric softening compsn. - contg. hydrogen
eroxide and cationic amine softener**

COLGATE PALMOLIVE CO 25.05.78-US-909592

E19 F06 (04.09.79) D06m-13/36

Liq. bleach, fabric-softener compsn. comprises (by wt.) (a) 3-10% water-soluble peroxy bleaching agent (I), $\geqslant$ 50% being H_2O_2; (b) 3-25% water-soluble softener (II), $\geqslant$ 50% being cationic amine, and (c) the balance water opt. contg. up to 10% water-soluble lower alkanol, esp. isopropanol. The wt. ratio (II):(I) is 5:7-5:1. Pref. (I) is entirely H_2O_2 and (II) entirely cationic amine. The compsn. pref. has pH 4-5.

Used in the wash, rinse or tumble-dry cycles of laundering processes. The liq. compsn. is easier to dispense than solids; components are compatible and have good storage stability at ambient and elevated temp. It can be used safely on dyed fabrics. 25.5.78 as 909592. (10pp1251)

See Also

D16 J7 9023994 D24 DS 2553103

AZM= 16.07.75 AS AZERB MICROBIOLO D16 *SU -636-255
Arthrobotrys compacta mecht 302 - 67508B/37

BBO= 08.07.77 AS BELO BOTANY EXPT D16 *SU -636-256
Sparkling fruit wine concentrate prodn. - 67509B/37

BET- 06.03.78 A BETONG AB D15 E17 *BE -874-620
Large scale mfr. of methane from organic waste e.g. manure - 66325B/37

DWA- 18.02.78 ADWATRE INC D15 =WP 7900-640
Aerobic treatment of waste water by activated sludge - 65803B/36

ERO- 21.02.74 AEROCYCLIC DISTLLAT D15 =IT 1031-351
Glass-tubed vapour compression (sea water) distn plant - 25885W/16

GAA 24.01.78 AGA HEATING AB D15 =NO 7900-196
Biological dry toilet - 56576B/31

GAH- 24.01.78 AGA HEATING AB D15 =GB 2015-493
Biological dry toilet - 56576B/31

GAH- 24.01.78 AGA HEATING AB D15 =SW 7900-520
Biological dry toilet - 56576B/31

GBR 04.07.67 AG FUR BRAUEREI IND D16 =IT 1031-001
Acid-activated montmorillonites - 63332Z/00

GBR 22.11.68 AG FUR BRAUEREI IND D16 E37 =IT 1031-003
Beer absorbant - 38422R/22

GEN 19.05.69 AGENCY OF IND SCI TECH D15 *J7 9023-908
Brine ice cleaning and melting appts. - 67290B/37

IRL 15.11.75 AIR LIQUIDE L' D16 (D13) =DS 2551-411
Vinegar prodn. by fermentation using superoxygenated atmosphere - 34483Y/20

IRR 05.02.74 AIRCO INC D18 =IT 1031-068
Expansion of organic materials - 55922W/34

IRW- 31.01.78 AIRWICK INDS INC D22 *BR 7900-550
Gel compsn. for deodorising air - B/37

JIN 29.10.71 AJINOMOTO KK D16 =J4 8049-977
Removing microorganism bodies from culture soln. - 67299B/37

JIN 29.10.71 AJINOMOTO KK D16 *J7 9023-993
Removing microorganism bodies from culture soln. - 67299B/37

JIN 07.02.74 AJINOMOTO KK D16 =J7 9024-471
Elastin-decomposing enzyme production - 04657X/03

JIN 18.07.75 AJINOMOTO KK B05 D16 E16 J03 (J01) =J7 9024-475
Refining glutamic acid by electrodialysis - 18811Y/11

JIN 02.10.75 AJINOMOTO KK D13 =J7 9023-970
Amylose-starch additive for foods - 35394Y/20

JIN 21.06.76 AJINOMOTO KK D13 =J7 9024-458
Synthetic fats prodn. - 11585A/06

KPE= 01.08.76 AS KAZA PETRO CHEM D15 E17 *SU -636-190
Compsn. for water treatment in circulating water supply system - 67446B/37

ALBR 25.11.77 ALBRIGHT & WILSON LTD D15 H01 M14 =J5 4099-746
Inhibiting boiler scale formation or metal corrosion - 42690B/23

ALBR 07.02.78 ALBRIGHT & WILSON LTD D25 *DT 2904-486
Conc. aq. surfactant compsn. forming lamellar phase - 66536B/37

ALFA 07.03.74 ALFA LAVAL AB D13 =IT 1031-264
Sepn of skimmed milk from milk or cream - 41024W/25

ALFA 16.05.77 ALFA-LAVAL AB D17 =GB 1552-569
Starch and by/products prepn. from corn - 82169A/46

ALFA 31.01.78 ALFA-LAVAL AB D16 E17 =DK 7900-377
Continuous prodn. of ethanol - 60966B/33

ALKU 29.11.76 AKZONA INC A11 D22 F06 =US 4165-743
Regenerated cellulose fibres with high liq. absorbing capacity - 40702A/23

ALKU 25.02.78 AKZO NV D15 E31 J01 M14 (E32) =NL 7802-123
Heavy metal removal from aq. effluent discharge - 64997B/36

ALLL 03.09.76 ALLEGHENY LUDLUM INC D23 *US 4166-836
Multi-tube fat rendering appts. - 68059B/37

ALMI= 15.03.77 AS LATV MICROBIOLOG D16 E17 *SU -636-262
Pseudomonas nonliguefaciens 13 strain - 67515B/37

AMCY 15.12.77 AMERICAN CYANAMID CO A97 D15 (A14) *US 4166-040
Compsns. for inhibiting magnesium scale in evaporative desalination - 67871B/37

AMCY 15.12.77 AMERICAN CYANAMID CO A97 D15 (A14) *US 4166-041
Inhibition of magnesium scale formation in evaporative desalination - 67872B/37

AMCY 24.01.78 AMERICAN CYANAMID CO A14 D15 (A97) #BR 7800-420
Scale inhibition using anionic polymer(s) - 15726A/08

AMCY 24.01.78 AMERICAN CYANAMID CO A14 D15 (A97) #SW 7800-874
Scale inhibition using anionic polymer(s) - 15726A/08

AMFI 24.12.75 AMERICAN FILTRONA CORP A88 D18 =CA 1061-218
Tobacco smoke filter - 93967X/50

AMSA 23.03.78 AMERICAN STERILISER CO D22 *US 4166-096
Steam steriliser for treating highly infectious articles - 67896B/37

ANDE/ 11.07.75 ANDERSON J D16 *US 4166-835
Observation capsule in organic digester tank - 68058B/37

ANDO/ 31.12.74 ANDO M D13 #US 4166-868
Ready-to-eat rice product - 70058W/42

AREN 05.08.76 ARENCO AB D12 =GB 1552-399
Positioning fish for processing machines - 12639A/07

ASAH 03.03.72 ASAHI CHEMICAL IND KK B04 D16 =J7 9023-998
Antibiotic 156-BI - 14229V/08

*ASAH 10.01.78 ASAHI CHEMICAL IND KK A88 D15 J01 *J5 4099-082
Sepn. of oil and water from mixt. - 67079B/37

*ASAH- 20.01.78 ASAHI CARBON KK D15 (D16) *J5 4099-346
Treatment of rice washing waste water from breweries - 67143B/37

*ASBI= 08.07.77 AS USSR BIOCHEM D16 *SU -636-257
Prodn. of brandy spirit maturation accelerator - 67510B/37

ASKO- 24.01.78 ASKO-UPO OY D15 =GB 2015-493
Biological dry toilet - 56576B/31

ASKO- 24.01.78 ASKO-UPO OY D15 =NO 7900-196
Biological dry toilet - 56576B/31

ASKO- 24.01.78 ASKO-UPO OY D15 =SW 7900-520
Biological dry toilet - 56576B/31

*ASPH= 01.12.76 AS USSR PHYS CHEM A97 D18 (A14) *SU -636-265
Finishing compsn. for furs etc. - 67518B/37

ATAK- 06.11.75 ATAKA KOGYO KK D15 =US 4166-801
Foam eliminating vessel for sewage fermentation tank - 36683Y/21

AZAR/ 14.12.77 AZAROV N N D15 J03 #J5 4097-583
Water desalination cell - 47279B/26

BADI 01.09.75 BASF AG D23 E15 =GB 1552-166
Polycyclic Diels Alder adduct perfume cpds. - 19364Y/11

BADI 29.12.77 BASF AG C02 D22 E13 F09 =J5 4098-766
Substd. triazolyl glycol ether derivs. - 52917B/29

BADI 26.01.78 BASF AG A60 D18 E16 G02 (A82) =DK 7900-317
Stabilising hydrazine crosslinking agents - 61792B/34

BADI 26.01.78 BASF AG A60 D18 E16 G02 (A82) =NO 7900-255
Stabilising hydrazine crosslinking agents - 61792B/34

BADI 23.02.78 BASF WYANDOTTE CORP A18 D25 G02 (A25 D15) =DT 2905-582
Aq. emulsion of finely divided hydroxyl-contg. polymer - 80060A/44

BAKP 06.04.79 BAKER PERKINS HOLD D11 =GB 2015-362
Bowl mixer with rotary and planetary action agitator - 44099B/24

BALS/ 01.12.77 BALSANO A R D13 =FR 2410-445
Aq. bath for removing surface contamination from foodstuffs - 25941B/14

*BASS- 21.01.78 BASS LTD C03 D16 (D13) *GB 2015-316
Treatment of spent brewers grains with alkali - 66651B/37

*BAXT 13.03.78 BAXTER TRAVENOL LAB D16 *GB 2015-730
Testing liquid sterility for bacteria and mould - 66705B/37

*BEAF 10.01.78 BEATRICE FOODS CO D14 *US 4166-486
Nozzle structure for denaturing food products - 67968B/37

BECT 31.05.77 BECTON DICKINSON CO B04 D16 =US 4166-102
Stable carriers, esp for immunoadsorbents - 80578X/43

BEDR- 27.02.78 BEDROSIAN & ASSOC A92 D13 (A11 A17) #DT 2808-358
Controlled atmosphere tomato package - 28703A/15

BEDR- 27.02.78 BEDROSIAN & ASSOCI A92 D13 (A11 A17) #NL 7802-168
Controlled atmosphere tomato package - 28703A/15

BEEC 21.11.72 BEECHAM GROUP LTD A96 B02 D16 =CA 1061-266
6-Aminopenicillanic acid prodn - 40315V/22

BEHW 26.05.72 BEHRINGWERKE AG B04 D16 =DS 2225-548
Distemper/canine hepatitis vaccine - 77904U/51

BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =BR 7900-778
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26

BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =GB 2015-495
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26

*BEKI 25.05.76 BELORUSS KIROV TECHN INS D16 F09 *SU -636-311
Prepn. of fibrous mass for fibre-board prodn. - 67562B/37

*BEKI 15.03.77 BELORUSS KIROV TECHN INS D16 *SU -636-252
Microorganisms aerobic culture unit - 67505B/37

*BELA- 20.01.78 BELA FRANK E NORDO D16 *BR 7800-376
Reduction of operational flow in alcohol plants - B/37

*BELO/ 29.01.75 BELOTTI F D15 *IT 1031-253
Liquid biological purification appts. - B/37

*BELY/ 10.03.76 BELYAEVSKII YU I D14 *SU -636-035
Cyclone for pneumatic fodder components mixing - 67400B/37

BENC 15.03.74 BENCKISER KNAPSACK A91 D15 H01 J01 (A11) =IT 1031-062
Elimination of residual water from oils, solvents and varnishes - 50992W/31

BENC 29.03.74 BENCKISER J A GMBH D25 =IT 1031-153
Storage stable washing powder for dish washing machines - 55690W/34

*BERG/ 17.02.79 BERGSTROM A E B04 D22 *WP 7900-638
Prodn. of thrombosis resistant surfaces - 68111B/37

BETT- 17.10.77 BETTCHER INDS INC D12 =US 4166-317
Hand-held trimming knife - 31907B/17

*BIAN/ 22.01.75 BIANCHETTI A D11 *IT 1031-104
Cupboard for food products storage - B/37

BIOC 23.07.75 BIOCHEMIE GMBH B05 D16 =GB 1552-457
Pleuromutilin solvates with a halogenated aliphatic hydrocarbon - 49608A/27

*BIOL- 03.11.77 BIOLOGISK AVFALLSHA D16 *SW 7712-416
Rubbish composting appts. with rectangular composting container - 67779B/37

BIOR- 28.04.77 BIO RES CENT CO LTD D16 E17 F09 =GB 1552-207
Prodn. of acetone and butanol from cellulose - 60478A/34

*BIOR- 19.01.78 BIO-RES CENT KK D16 *J5 4098-389
Preparing yeast body from cellulose material - 66981B/37

BOHN/ 28.01.78 BOHNKE B D15 =BR 7900-496
Installation for treating water by activated sludge process - 39027B/21
• BRAX/ 28.04.78 BRAXTON E J B04 D16 *BE -875-853
Adsorption to obtain trace constituents esp. urokinase from urine - 66356B/37
BRIM 29.06.76 BRISTOL MYERS CO A96 D21 (A14 A25) =DS 2727-848
Hair fixation using fluorinated terpolymer - 86492Y/48
BRPE 19.09.75 BRITISH PETROLEUM LTD D13 H04 (D16) =GB 1552-420
Treating unicellular protein obtd. by fermentation - 07601Y/05
BRPE 28.02.78 BRITISH PETROLEUM LTD D15 H05 #NL 7802-187
Oil removal from oily sludge - 63421A/36
• BRTO 25.11.77 BOC LTD D15 J02 *SW 7713-369
Dissolving sparingly soluble gas in bulk liq. - B/37
• BUST/ 07.10.75 BUSTAMANTE C R D13 (D18) *US 4165-752
Tobacco substitute prepn. from whole coffee cherries - 67815B/37

CABA/ 13.01.78 CABARDO A M B06 D21 #J5 4098-316
Periodontal powder for treating bleeding gums and gingivitis - 24299B/13
• CALG 25.01.74 CALGON CORP A91 C03 D15 F09 (A26 A82 A87 A97) *US 4166-894
Functional ionene polymer prepd. from di:amine and di:halide - 68086B/37
• CAMP- 28.02.78 CAMPBELL SOUP CO D13 *DT 2906-839
Biologically stable food, esp. soup concentrate - 66564B/37
CANA 08.03.74 CANADIAN PAT & DEV LTD D13 =J7 9024-464
Candy filling - 79458W/48
• CAPS- 17.01.78 CAPSULE PRODS INC D11 E19 (D16 E33 E34) *J5 4098-352
Additive compsn. for bread prodn. - 66979B/37
CARB- 08.09.77 CARBOMEDICS INC D22 L02 =US 4166-292
Joint prosthesis element - 22411B/12
CARO 30.12.77 CARBORUNDUM CO D15 E36 J01 =BR 7808-604
Hard granular activated carbon for water treatment - 35108B/18
CASS 23.12.77 CASSELLA AG A87 D18 E19 F06 =BR 7808-476
Compsn. for treating cellulosic textiles and leather - 49263B/27
• CEME= 04.01.77 CEMENT AUTOCLAVE D17 E34 J09 *SU -636-455
Loading device for shaft furnace - 67594B/37
• CGRR 02.12.77 CGR MEV D15 *FR 2410-633
Salt water esp. sea water treatment to produce drinking water - 66619B/37
• CHDY- 23.11.77 CHEM DYNAMICS SWEDE D16 E17 (D15) *SW 7713-211
Starting microbiological prodn. of methane - B/37
CHET 08.04.70 CHEMETRON CORP D23 =DS 2116-894
Temperature control of fluid reactionmixtures - 68240S/43
CHET 17.07.70 CHEMETRON CORP D23 (D13) =IT 1031-006
Process and apparatus for deodorising oils - 23069S/13
CHIM- 27.01.78 CHIMICASA GMBH B05 C03 D16 (D13) =SW 7900-728
Terpene(s) steam-distilled from aromatic plants - 40655B/22
CHUS 18.08.77 CHUGAI SEIYAKU KK B02 C02 D13 =US 4166-865
Animal e.g. cattle, sheep or pigs growth promotion - 16289B/09
• CLIN- 22.11.71 CLINE-BUCKNER INC D22 J04 *US 4166-087
Static vapour generator for air treatment - 67890B/37
• CNRS 30.11.77 INST NAT SANTE RECH MED B04 D16 *FR 2410-476
Peptidoglycan extracts of bacteria, esp. Bacillus species - 66607B/37
COAF 05.06.75 CREUSOT-LOIRE D15 =CA 1061-260
Purificn. of oil polluted industrial effluent esp. coolants - 94318X/51
COKE 01.03.76 COCA-COLA CO D13 E23 =GB 1552-402
Deoxy-anthocyanidine salt prepn. from acylated flavanones - 65316Y/37
COKE 01.03.76 COCA-COLA CO D13 E23 =GB 1552-403
Deoxy-anthocyanidine salt prepn. from acylated flavanones - 65316Y/37
COKE 30.12.77 COCA-COLA CO D23 E15 =J5 4098-743
Substd.-cyclohex-3-en-1-one cpds. useful as perfume materials - 09884B/05
• COLG 27.03.68 COLGATE PALMOLIVE CO B05 D21 E16 (D22) *US 4166-073
Unsymmetrical poly:onium quat. cpds. - 67885B/37
• COLG 16.11.70 COLGATE PALMOLIVE CO A96 D21 E19 *US 4166-845
High foaming anti-dandruff shampoo - 68064B/37
COLG 07.07.75 COLGATE PALMOLIVE CO D22 F07 =GB 1552-469
Baby's disposable nappy - 86993X/47
• COLG 25.05.78 COLGATE PALMOLIVE CO D25 E19 F06 *US 4166-794
Liq. bleach and fabric softening compsn. - 68037B/37
COMP 26.09.75 SAINT-GOBAIN TECH N D15 =GB 1552-172
Purifying urban effluent after sepn. of coarse particles - 21891Y/13
• COOQ 30.11.75 COOPER LABS INC B03 D21 *US 4166-827
Antimicrobial bis-carbamyl-guanidino aza-alkane derivs. - 68055B/37
• CORG 28.09.77 CORNING GLASS WORKS B04 D16 J04 *US 4166-765
Detection of Neisseria bacteria, esp. N. gonorrhoeae in a sample - 68018B/37
• CORG 10.11.77 CORNING GLASS WORKS A97 D16 (A26) *US 4166-006
Enhancement of microbial growth - 67856B/37
CORG 24.02.78 CORNING GLASS WORKS D15 E17 J01 (E36) =DT 2905-35[illegible]
Porous hydrophobic inorganic membrane - 65097B/36
CORG 24.02.78 CORNING GLASS WORKS D15 =DT 2905-391
BOD determn. and processing of organic waste in aq. medium - 55107B/36
CORP 05.02.74 CPC INTERNATIONAL INC C03 D13 =IT [illegible]
Dry, fluid, fat-contg. food prepn - 55942W/34
CORP- 01.02.74 INST DES CORPS GRAS D17 =IT 1031-320
Selective hydrogenation of polyunsatd. oils using catalyst - 50917W/31
CREP- 30.01.78 CREPACO INC D13 =DK 7804-405
Agitator and dasher e.g. for ice cream or margarine mfr. - 93032A/51
• CUIN- 27.01.78 CUBA MIN IND D17 *BR 7800-532
Cane sugar product deterioration prevention - B/37

• DAIK 05.07.74 DAIKIN PLANT KK D15 E36 *J7 9024-218
Cyanide-contg. (waste) water treatment - 67312B/37
DAIK- 05.07.74 DAIKIN PLANT KK D15 E36 =J5 1007-753
Cyanide-contg. (waste) water treatment - 67312B/37
• DAIK- 05.07.74 DAIKIN PLANT KK D15 E36 *J7 9024-218
Cyanide-contg. (waste) water treatment - 67312B/37
DAIN 25.03.76 DAINIPPON PHARM KK B04 D16 K08 =US 4166-767
Enzyme immunoassay or radioimmunoassay antibody immobilisation 72820Y/41
• DEAN- 04.09.75 DEAN J MEAT CO D14 *US 4165-818
Automatic pressure sensing system in pump outlet - 67822B/37
DEGM 12.08.75 DEGREMONT SA D15 =CA 1061-261
Sludge recovery device fixed to rotating bridge - 85054X/46
• DEGS 10.03.78 DEUTSCHE GOLD & SILBER D25 E34 *BE -874-632
Sodium percarbonate particles coated with dehydrated sodium perborate - 66331B/37
• DEGS 05.12.78 DEUTSCHE GOLD & SILBER D15 *DS 2852-475
Automatic detoxification of waste liquor contg. nitrite ions - 66410B/37
• DENG- 23.01.78 DENGEN KAIHATSU KK D15 *J5 4099-084
Pretreatment of waste water prior to reverse osmosis - 67080B/37
DOWC 02.12.77 DOW CHEMICAL CO A41 D15 E16 =US 4166-828
N-Amino-methyl unsatd. carboxamide prodn. - 44350B/24
• DOWC 02.11.78 DOW CHEMICAL CO A60 C02 D22 E13 *US 4166-854
1-Triazolyl-1-pyridinyl:oxy-2-butanone derivs. - 68067B/37
DRAG- 22.02.78 DRAGOCO GERBERDING D23 E15 =GB 2015-523
Fixative for perfume compsns. - 64806B/36
DREW 18.01.78 DREW CHEMICAL CORP A35 D15 G02 (A82) #J5 4097-630
Recovery of reusable latex paint solids - 60342A/33
DYNL 22.12.77 DYNAPOL B05 D13 E14 (E12) =J5 4098-746
4-3-Sulpho-4,5-di:hydroxy-hexyl:oxy 4'-alkoxy di:hydro-chalcone(s) - 31634B/17
DYNN 23.07.69 DYNAMIT NOBEL AG D11 =DS 1937-433
Chemically-and yeast risen baked goods - 12156S/07
• DYNN 29.04.78 DYNAMIT NOBEL AG D15 E33 F09 L02 *BE -875-919
Directly usable alkaline aluminate prodn. in high yield - 66375B/37

• EAST 10.12.76 EASTMAN KODAK CO B04 D16 *US 4166-005
Prodn. of alpha-glycero:phosphate oxidase - 67855B/37
EAST 10.12.76 EASTMAN KODAK CO B04 D16 J04 =US 4166-763
Compsn. for analysing lactate in blood - 42201A/24
• EBAI 24.01.78 EBARA INFILCO KK D15 J01 (D17) *J5 4099-783
Regenerating permeable membrane for protein sepn. waste - 67202B/37
ECOL- 19.06.72 ECOLOTROL INC D15 =J5 4099-348
Denitrifying waste liquids - 00655V/01
ELEK- 00.00.72 ELEKTRO & GAS ARMAT D11 =IT 1031-011
Low-temp. domestic baking oven - 29258W/18
ELIL 08.12.77 ELI LILLY & CO B03 C02 D16 =J5 4098-701
Antibiotic A-40104 fraction A - 93172A/51
ENTW- 00.00.72 EFA ENTWICKLUNGS D15 =DS 2253-743
Clarifying waste waters contg nitrites - 40052V/22
• ENVI- 13.08.75 ENVIRONMENTAL ELEME D15 *US 4166-036
Floating skimmer for removal of contaminants - 67868B/37
ERAP 06.02.74 ENTR RECH ACTIVIT PETROL D15 =IT 1031-488
Continuous oxidn. of phenols in waste water - 42726W/26
• ERAP 08.03.78 SOC NAT ELF AQUITAI A28 C03 D15 F06 (A87 A91) *BE -874-671
Addition polymer with lateral beta-hydroxy poly:sulphonium gps. 66337B/37
ERIC- 03.03.72 ERICKSON & CO WA A96 D21 =J7 9024-239
Tooth-filling compsn - 54872U/38
ESCA- 05.12.77 ESCAN METAL CANADA D13 =FR 2410-466
Steam chamber for cooking foodstuffs - 45915B/25
ESSO 23.12.77 EXXON RES & ENG CO D25 E14 =BR 7808-425
Purifying alkaryl sulphonic acid - 53003B/29
ESSO 23.12.77 EXXON RES & ENG CO D25 E14 =J5 4098-739
Purifying alkaryl sulphonic acid - 53003B/29
ETHI 05.12.77 ETHICON INC A96 D22 =FR 2410-471
Surgical suture needle with thread detachable by pulling - 87831A/49

FARB 27.03.73 BAYER AG D13 E12 M14 =DS 2315-297
Compressed sodium benzonate powder of increased bulk wt. 73111V/42
FARB 17.04.75 BAYER AG D15 =US 4166-790
Aeration of activated sludge by injectors - 60582A/34
FARB 02.08.75 BAYER AG D15 J04 =GB 1552-325
Determn. of inorganic carbon in water or aq. liq. - 09635Y/06

09.11.76 BAYER AG A96 D22 (A25) =DS 2651-089
hopaedic medical or veterinary dressing - 35142A/20
10 10 77 BAYER AG D22 J09 =NL 7815-022
rning transiently explosive gases without back-firing - 31932B/17
24 12 77 BAYER AG C03 D13 =BR 7808-472
nt protectant cpd. prepd. by Actinoplanes culture - 52922B/29
28 06 75 HOECHST AG D25 E34 (E12) =CA 1061-081
kali phosphates with high degree of whiteness - 04109Y/03
28.06.75 HOECHST AG D25 E34 (E12) =J7 9023-914
kali phosphates with high degree of whiteness - 04109Y/03
11.12.75 HOECHST AG D15 E36 J03 (E32) =DS 2555-693
moving mercury from effluent water e.g. from electrolysis cells -
741Y/24
24.07.76 HOECHST AG C03 D16 (D13) =US 4166-004
cterial cell mass protein source for nutrition - 08585A/05
07.01.77 HOECHST AG A35 D15 (A14) =US 4166-033
lyvinyl alcohol sepn. from aq. solns. - 49728A/28
25.02.78 HOECHST AG A87 D18 E17 F06 (A25 A82 A97 E16) *DT
-157
ater-dispersible fluorocarbon resin preparations - 66426B/37
25.02.78 HOECHST AG A87 D18 E17 F06 (A25 A82 A97 E16) =GB
-602
ater-dispersible fluorocarbon resin preparations - 66426B/37
02.03.78 HOECHST AG D15 M25 *DT 2808-961
rifying waste waters contg. water-soluble metal salt(s) - 66469B/37
04.03.78 HOECHST AG D12 *DT 2809-385
usage meat filling device - 66505B/37
/ 09.06.78 FARNWORTH C D15 *US 4166-392
wage sampler periodically drawing liquid sample into containers -
959B/37
- 28.02.78 FINNPIPETTE OSMO A B04 D16 J04 =GB 2015-725
tomatic measurement of agglutination test samples - 64904B/36
10.01.77 FIRMENICH SA B07 C02 D13 E13 (B03 D18) =US 4166-869
Acyl-pyrimidine and 2-methyl-4-acyl-pyrimidine derivs. - 51922A/29
25.05.73 FIVES LILLE CAIL D17 #IT 1031-013
gar centrifuge - 00356V/01
C 30.12.77 FMC CORP D22 E17 =BR 7808-590
iphatic di:peroxy-di:carboxylic acid prodn. - 29650B/15
C 30.12.77 FMC CORP D22 E17 =J5 4098-714
iphatic di:peroxy-di:carboxylic acid prodn. - 29650B/15
A 27.06.76 FOREMOST-MCKESSON I D15 =GB 1552-559
ater dispenser with inverted storage bottle - 27704B/14
D- 31.12.75 FOOD TECH INC D13 (D17) =CA 1061-177
owable high protein dehydrated molasses powder - 81128X/43
D= 30.06.76 FOOD IND STARCH PRO D17 J02 *SU -636-016
scous fluids mixer esp. for polysaccharide and starch mfr. - 67387B/37
D= 02.08.76 FOOD IND EXTRAMURAL D15 (D16) *SU -636-254
odn. of water for brewing - 67507B/37
= 27.10.76 FOREST CHEM IND INS D18 *SU -636-264
ather greasing compsn. - 67517B/37
N/ 29.01.75 FORNAROLI G D11 *IT 1031-270
ozen dough prodn. appts. - B/37
J 28.12.77 FRAUNHOFER-GES FORD ANGE D15 J01 =GB 2015-549
licic acid hetero-polycondensate prodn. - 52664B/29
M 04.08.69 FROMAGERIES BEL-LA VACHE D13 =IT 1031-005
heese crumble whey draw-off - 14340S/08
- 30.11.77 SOC FRANCAISE DE RECH B04 D16 =FR 2410-658
epsipeptide extract of Fusarium equiseti - 42405B/23
R 17.08.76 FERRERO P & CIA SPA D11 =DS 2736-838
aba type fancy cake - 90091Y/51
R 31.01.78 FERRERO OHG B06 D21 (D16) =DK 7900-381
nticariogenic foods and pharmaceuticals - 58294B/32
R 31.01.78 FERRERO OHG B06 D21 (D16) =DK 7900-382
nticariogenic foods and pharmaceuticals - 58290B/32
O 26.07.75 FUJI OIL KK D13 =J5 2015-844
ried bean-curd prepn. - 67346B/37
O 26.07.75 FUJI OIL KK D13 *J7 9024-453
ried bean-curd prepn. - 67346B/37
C/ 03.02.75 FUSCO R D15 E11 F06 =IT 1031-430
emoving anoinic organic impurities from aq. effluents - 61942X/33

RH- 05.12.77 GARHIN SARL A88 D15 J04 =FR 2410-812
luid additive metering system - 44303B/24
E- 08.04.74 GB FERMENTATION IND D13 (D16) =SW 7902-357
ipolytic enzyme system from Mucor miehei - 58739W/36
E- 08.04.74 GB FERMENTATION IND D13 (D16) =SW 7902-358
ipolytic enzyme system from Mucor miehei - 58739W/36
F/ 31.01.77 GELFAND G D D13 *SU -636-263
eutralised vegetable hydrolysate prodn. - 67516B/37
IE 03.11.71 GENERAL ELECTRIC CO A26 D15 =J4 8053-557
)zone-treatment of industrial sewage - 29115U/21
IE 03.11.71 GENERAL ELECTRIC CO A26 D15 =J7 9024-216
)zone-treatment of industrial sewage - 29115U/21
IM 27.08.75 GENERAL MILLS INC D13 =GB 1552-200
nack food prods. prepd. from hydrated flour based material - 02041Y/02

* GENM 13 06.77 GENERAL MILLS INC D12 *US 4166 138
Bacon-like meat analogue prodn. - 67915B/37
GENO 07 08 74 GENERAL FOODS CORP D11 = CA 1061-173
Freezer storable ready-to-use batter - 66692X/35
GENO 21.05.75 GENERAL FOODS CORP D13 = CA 1061-172
Corn flakes mfr. which remain crisp in milk - 23566Y/13
GENO 28 05.75 GENERAL FOODS CORP D13 =CA 1061-175
High protein triticale grain flakes - 96192X/51
GENO 28.05.75 GENERAL FOODS CORP D13 =CA 1061-176
Rice contg. currugated cereal flakes - 01956Y/01
GENO 29.05.75 GENERAL FOODS CORP D13 =CA 1061-169
Foodstuffs coating mixt. esp. for breakfast cereals - 95560X/51
GENO 01.10.75 GENERAL FOODS CORP D13 =CA 1061-167
Incorporation of gas into a sweetmeat - 72229X/39
GENO 01.10.75 GENERAL FOODS CORP D13 =CA 1061-168
Carbonated bonbon - 75712X/41
GENO 22.12.75 GENERAL FOODS CORP D13 =CA 1061-171
Prodn. of glyceride oil aromatised with coffee aroma - 49007Y/28
GENO 06.10.76 GENERAL FOODS CORP B05 D21 E14 #GB 1552-176
Preventing dental enamel demineralisation and caries formation - 30358A/17
GENO 30.11.77 GENERAL FOODS FRANC D13 =FR 2410-439
chewing gum prepn. - 25987B/14
GENO 01.12.77 GENERAL FOODS CORP D12 (D23) =FR 2410-440
Texturised oil seed protein meat substitute - 44244B/24
GLOB- 18.03.74 GLOBOL WERK GMBH D22 =IT 1031-449
Controlled-release solid air deodorants - 39260W/24
* GOGO= 07.07.76 GORKI GORKNEFTEKHIM D15 H05 *SU -636-191
Device for flotation cleaning of aq. effluent - 67447B/37
* GOLD 02.03.78 GOLDSCHMIDT TH AG D22 E16 *DT 2808-943
Microbicidal guanidinium salt derivs. - 66467B/37
GOLD 02.03.78 GOLDSCHMIDT TH AG D22 E16 =GB 2015-520
Microbicidal guanidinium salt derivs. - 66467B/37
* GOLE= 27.10.76 GORKI LEATHER COMPLEX D18 *SU -636-264
Leather greasing compsn. - 67517B/37
GOOR/ 31.07.74 GOORDMAN R V C03 D15 =CA 1061-129
Synthetic top soil prepn - 47482W/28
GRAC 01.02.78 GRACE W R CO B02 C02 D16 =US 4166-764
Fermentative prodn. of monordene - 40690B/22
* GREC 23.01.78 GREEN CROSS CORP A96 B04 D16 (A25) *J5 4098-306
Cholinesterase prodn. from human blood plasma - 66962B/37
* GREE- 05.01.78 GREEN GIANT CO D11 *US 4166-136
Lasagne noodle formed as elongate ribbon - 67914B/37
* GREM 20.01.78 GRELAN PHARMACEUTICAL KK B04 D16 *J5 4097-692
Antitumoural straight chain mannan cpds. - 66932B/37
GROL/ 19.08.69 GROLITSCH E D13 (D23) =DS 2002-169
Fat powder mixtures - 17360S/10

HAAR 22.12.77 HAARMANN & REIMER GMBH B02 C02 D13 E13 =J5 4098-764
Piperonylidene-crotonamide derivs. prodn. - 45730B/25
HAGI/ 07.10.71 HAGIWARA Y D13 =J4 8040-968
Extract soln. contg. active components of egg shell - 67298B/37
* HAGI/ 07.10.71 HAGIWARA Y D13 *J7 9023-975
Extract soln. contg. active components of egg shell - 67298B/37
* HANW/ 08.03.76 HANWAY J E A91 D15 J01 M25 *US 4166-032
Removal of heavy metals from waste waters - 67866B/37
* HARA/ 23.01.78 HARA M D15 *J5 4099-776
Continuous sludge dewatering appts. - 67197B/37
* HASE 17.01.78 HASEGAWA KK D16 E24 *J5 4096-532
Chromogenic prods. of gardenia fruit dye - 66740B/37
* HAUN 00.00.75 HAUNI-WERKE KORBER KG D18 *DT 2809-160
Combination cigarette filter transfer device - 66487B/37
HAYB 20.03.74 HAYASHIBARA BIOCHEM KK A32 B07 D22 F01 (A11 A94 A96) =CA 1061-068
Absorbent water sol pullulan fibres prepn. - 69176W/42
* HEAT= 09.03.77 HEAT MASS TRANF INS D15 J01 *SU -636-193
Separator with axial gas inlet in rotating drum - 67449B/37
HENK 19.07.68 HENKEL KG AUF AKTIEN B05 D22 =IT 1031-002
Antimicrobial bromonitroalcohols - 27170R/16
HENK 02.09.76 HENKEL KG AUF AKTIEN D21 E21 =US 4165-967
Hair colouring agents giving wide range of colours - 19950A/11
HENK 20.09.76 HENKEL KG AUF AKTIEN D21 E19 =GB 1552-280
Poly:carboxylic acid hydroxyalkyl ester(s) - 23492A/13
HENK 02.12.77 HENKEL KG AUF AKTIEN A97 D25 (A26) =FR 2410-674
Powdered detergent contg. silicone antifoam - 42420B/23
HENK 29.12.77 HENKEL KG AUF AKTIEN D25 E33 =J5 4098-055
Machine washing and cleaning solid material - 58554B/32
* HENK 02.03.78 HENKEL KG AUF AKTIEN D25 E24 F06 *DT 2808-927
Liq. detergent for washing textiles - 66463B/37
HERA 31.03.76 HERAEUS W C GMBH D23 E17 =DS 2613-645
Cinnamaldehyde hydrogenation to odoriferous dihydrocinnamaldehydes - 72682Y/41
* HESS/ 02.11.77 HESSELGREN S G A96 D22 *SW 7712-360
Wound dressing compsn. including water-soluble alginate and salt - 67777B/37

•HITA 19.01.78 HITACHI KK D15 E36 *J5 4098-042
Hydrofluoric acid removal and recovery from waste water - 66944B/37

HOFF 13.01.78 HOFFMANN-LA ROCHE AG D13 E24 =J5 4098-372
Colouring agent, esp. for drinks, based on natural colourant - 52539B/29

HOFF 27.02.78 HOFFMANN-LA ROCHE AG A96 B04 D16 J04 =DT 2907 228
Immunochemical assay of LDH-1 isoenzyme in serum - 65128B/36

HOFF 27.02.78 HOFFMANN-LA ROCHE AG A96 B04 D16 J04 =NL 7901-537
Immunochemical assay of LDH-1 isoenzyme in serum - 65128B/36

•HOFF/ 28.02.78 HOFFMANN K D15 E34 (E31) *DT 2808-519
Oxygen dispenser for fish tanks - 66442B/37

•HOND/ 18.08.66 HONDA T D18 *J7 9024-000
Mfr. of cigarettes - 67300B/37

•HYDR- 05.12.77 HYDRO SYSTEM SRL A88 D15 J01 *FR 2410-496
Multi-passage extruded plastic tube e.g. for biological filter - 66611B/37

ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 =NL 7901-365
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35

ICIL 08.05.78 IMPERIAL CHEM INDS LTD C02 D13 =BE -874-675
Treatment of ruminants with aplasmomycin or related cpds. - 52996B/29

IMPT 05.05.76 IMPERIAL GROUP LTD D18 #CA 1061-096
Smoking prod. contg. non-tobacco additive - 79015W/48

•INFL 19.02.75 INT FLAVORS & FRAGR INC C02 D13 E13 *NL 7903-348
Liver flavour agent for foodstuffs - 67363B/37

•INFL 19.02.75 INT FLAVORS & FRAGR INC C02 D13 E13 *NL 7903-349
Liver flavour agent for foodstuffs - 67364B/37

•INFL 23.03.77 INT FLAVORS & FRAGR INC D23 E12 *US 4166-916
Bi:cyclooctene Grignard reagents - 68096B/37

INME- 03.02.78 IND MECC TRE-P D18 =BR 7900-738
Continuous skin fleshing machine with two opposing sections - 60265B/33

•INOU- 13.01.78 INOUE KAGAKU KOGYO D25 E17 (E14 E34) *J5 4096-503
Cleaning compsn. for automobile windscreen - 66729B/37

INSF 01.02.74 INST FRANCAIS DU PETROLE D17 =IT 1031-320
Selective hydrogenation of polyunsatd. oils using catalyst - 50917W/31

•INTM 01.10.76 INT MINERALS & CHEM CORP D22 E13 G03 H01 *US 4166-121
Controlling growth of bacteria, e.g. in starch adhesives - 67908B/37

•INTT 28.02.78 DEUTSCHE ITT INDS D11 *DT 2906-803
Edible moisture-barrier coating for doughnuts - 66560B/37

INTT 28.02.78 ITT INDS INC D11 =GB 2015-315
Edible moisture-barrier coating for doughnuts - 66560B/37

INTT 28.02.78 ITT IND INC D11 =NL 7901-535
Edible moisture-barrier coating for doughnuts - 66560B/37

•ISHI/ 12.12.75 ISHIDA Y D13 *GB 1552-348
Mfr. of re:heatable pre-boiled rice - 66645B/37

•JAGA 20.01.78 JGC CORP D15 *J5 4099-344
Treating waste water, e.g. sewage or industrial effluent - 67141B/37

•JAOR 20.01.78 JAPAN ORGANO KK D15 J01 *J5 4097-579
Sepn. of cationic exchange resin from exchange resin mixt. - 66867B/37

•JAOR 20.01.78 JAPAN ORGANO KK D15 J01 *J5 4097-580
Regenerating acid cation exchange resin or basic anion exchange resin - 66868B/37

•JAPC 21.01.78 NIPPON SHOKUBAI KAGAKU D15 E34 F09 *J5 4099-343
Oxidn. of sodium sulphide-contg. alkaline soln. - 67140B/37

JOHJ 07.01.74 JOHNSON & JOHNSON A96 D22 F04 =CA 1061-194
Disposable wadding mfg. process - 49658W/30

JOHJ 23.06.76 JOHNSON & JOHNSON A96 D22 =US 4166-464
Absorbent bandage contg. thin flexible support film - 02572A/02

KABI 06.10.75 KABI AB B04 D16 J04 =CA 1061-230
Determining enzymatic and other biological activity - 11217Y/07

KAEL/ 29.05.75 KAELIN J R A88 D15 (D16) =GB 1552-353
Biological transformation plant for refuse and sludge - 77605X/42

•KAMI- 05.07.74 KAMI-GUMI KK D15 E36 *J7 9024-218
Cyanide-contg. (waste) water treatment - 67312B/37

KAOS 22.09.75 KAO SOAP KK D25 E12 (E16) =US 4166-048
Nonirritating liquid detergent compsn. - 07609Y/05

KAOS 14.11.75 KAO SOAP KK A97 D25 (A25) =J7 9023-870
Bleaching compsns. releasing hydrogen peroxide in aq. soln. - 46159Y/26

•KAOS 06.03.78 KAO SOAP KK A96 D21 E16 (A14 E17) *GB 2015-562
Shampoo contg. anionic surfactant, alkanol:amide and polyacrylic acid - 66687B/37

KAYA 21.11.74 KAYAKU ANTIBIOTIC RES B04 D16 =J7 9024-479
Antibiotic No.K-73 produced - 53254X/28

•KAZM= 12.04.76 KAZMEKHANOBR RES D15 E36 M25 (D16) *SU -637-333
Microbiological removal of metal cyano complexes from aq. waste - 67741B/37

•KDFO= 25.12.75 KRASD FOOD IND RES D23 *SU -636-251
Ethereal oils extn. from seeds - 67504B/37

KEMA 22.10.75 KEMANORD AB A60 C03 D22 E16 =DS 2647-915
Antimicrobial and pesticidal guanidated polyamine mixtures - 33078Y/19

KERJ 30.03.77 KERNFORSCHUNGS JULICH D15 J01 M11 =GB 1552 573
Heat-treated activated carbon catalyst - 53622A/30

KERJ 30.11.77 KERNFORSCHUNGS JULICH D15 E35 K07 (E16) =FR 2410-870
Treatment of waste soln. contg. ammonium nitrate - 42412B/23

KERN- 23.01.78 GES KERNENERGIEVERW D15 =SW 7900-470
Water desalination and purification - 54635B/30

•KIHE= 16.03.76 KIEV HEMATOLO BLOOD B04 D16 J04 *SU -636-258
Colorimetric measurement of amidase activity in biological material 67511B/37

KOIW- 04.08.75 KOIWAI NOBOKU KK D13 (D16) =J5 2018-851
Soybean powder prepn. - 67347B/37

•KOIW- 04.08.75 KOIWAI NOBOKU KK D13 (D16) *J7 9024-454
Soybean powder prepn. - 67347B/37

•KRAT- 19.01.71 KRATT H MASCH FAB D13 *DS 2102-349
Frothy whipped cream machine - 66394B/37

KRFT 20.11.74 KRAFT INC D13 =CA 1061-165
Multipurpose whipped dessert resistant to freeze thaw cycles - 21783Y/12

•KRFT 02.07.75 KRAFT INC A97 D13 *CA 1061-166
Frozen milk shake stable against de-emulsification - 66390B/37

•KRON- 02.12.77 KRONENBOURG BRASSER A88 D16 J04 *FR 2410-824
Automatic periodic sampling and analysis of beer during fermentation - 66635B/37

•KRON- 24.02.78 FA KRONER H D13 *DT 2808-652
Protein-enriched edible bran prepn. from wheat grains - 66446B/37

KROY/ 27.02.79 KROYER K K K A81 D22 F04 =GB 2015-604
Binder-contg. fibrous sheet mfr. - 52566B/29

KUBI 22.11.74 KUBOTA KK D15 E36 =J7 9023-749
Waste water treatment with ozone - 78451X/42

•KUBI 20.01.78 KUBOTA KK D15 *J5 4099-352
Denitrification of nitrogen cpds.-contg. liquor e.g. sewage - 67145B/37

KUNZ- 01.04.75 KUNZ W MASCH AG C03 D14 =CA 1061-105
Agricultural food stuff drying system - 79635X/43

•KURS 23.01.78 KURARAY KK A91 D15 E37 (A14) *J5 4100-142
Treating waste water from dyeing process - 67230B/37

KYOW 13.10.71 KYOWA HAKKO KOGYO D16 E17 H04 =J7 9023-996
Fermentative prodn of citric acid - 57057U/39

KYOW 07.03.72 KYOWA HAKKO KOGYO B03 D16 =J7 9023-997
Megalomycins prodn - 43112U/31

KYOW 05.09.72 KYOWA FERMENTATION KK B04 D16 =J7 9024-476
Erythronolide B prodn. - 60607V/34

KYOW 11.09.72 KYOWA HAKKO KOGYO B03 D16 =J7 9024-477
Megalomycins prodn - 43112U/31

KYOW 14.02.73 KYOWA HAKKO KOGYO B03 D16 (B02) =DS 2462-314
Nucleoside-cyclophosphate prepn.. from ribonucleic acid - 85110X/46

KYOW 21.12.77 KYOWA HAKKO KOGYO B03 D22 E13 =J5 4098-742
2-Deoxy-fortimicin B and its precursors - 47152B/26

•KYOW 03.03.78 KYOWA HAKKO KOGYO B03 D16 E13 (D22) *DT 2908-150
Antibacterial fortimicin KG derivs. - 66600B/37

•KYOW 07.03.78 KYOWA HAKKO KOGYO B02 D16 *GB 2015-525
Prodn. of antimicrobial nanaomycin E - 66679B/37

•KYOW 07.03.78 KYOWA HAKKO KOGYO B02 D16 *GB 2015-526
Prepn. of antimicrobial nanaomycin A in high yield - 66680B/37

LABO 02.12.77 LABOFINA SA D23 (D13) =FR 2410-505
Hydrogenation catalyst for oils, esp. cooking oils - 27888B/15

LABO 02.12.77 LABOFINA SA D23 (D13) =FR 2410-673
Hydrogenating oils, esp. cooking oils, using nickel catalyst - 27889B/15

LEBR/ 05.12.77 LEBRUN C D11 =FR 2410-437
Loading carriage and shelf rack for baking oven - 44310B/24

•LEEN= 12.07.77 LENGD ENG CON INST D15 J01 *SU -637-128
Electric cleaner for chemical industry and waste - 67646B/37

LEMC/ 13.02.78 LEMCHEN M S D22 =WP 7900-620
Timed cold steriliser - 19960B/10

•LENL 06.01.77 LENINGRAD FORESTRY ACAD B04 D17 E17 J04 *SU -636-529
Quantitative determn. of 6-desoxy-hexose cpds. in biological material - 67615B/37

•LIBU= 27.08.73 LITH BUTTER CHEESE C03 D13 *SU -637-111
Fat-rich feed for young agricultural animals e.g. calves - 67637B/37

•LIFE 08.06.77 LIFE SAVERS INC D13 *US 4166-134
Chewing gum with improved flexibility retention - 67912B/37

LIOC 02.02.77 LION DENTIFRICE KK A96 D21 G02 (A14 A25 A26) =US 4166-110
Nail varnish removable by drawing varnish off nail - 57209A/32

•LIOC 13.01.78 LION DENTIFRICE KK A96 B05 D21 (A25) *J5 4098-344
Chlorhexidine compsn. for oral use - 66977B/37

LIOY 18.06.76 LION FAT & OIL KK D24 E34 =J7 9024-404
Liquid toilet soap compsn. - 11111A/06

•LIOY 18.01.78 LION FAT & OIL KK A96 B05 D21 *J5 4098-343
Anti-dandruff hair rinse compsn. - 66976B/37

LIPT- 22.03.74 LIPTON T J INC D23 (D13) =US 4166-823
Purificn of crude phosphatides - 67306W/41

•LUPO- 02.03.78 LUPOFRESH ALLFELD & D16 *DT 2808-[illegible]
Hop pellet prodn. - 66471B/37

PO- 02.03.78 LUPOFRESH ALLFELD & D16 =GB 2015-569
Hop pellet prodn. - 66471B/37
TH- 23.02.78 LUTHER-WERKE GMBH D16 *DT 2807-725
Vacuum drier for yeast - 66419B/37

AGN- 05.12.77 MAGNUSON ENG INC D14 =FR 2410-442
Peeling cherries or tomatoes by beds of contra rotating rolls - 40373B/21
AQU- 26.01.78 MAQUINAS KLEIN S/A D18 *BR 7800-479
Leather-working machine - B/37
ARV/ 04.08.77 MARVIN M C D15 *US 4166-791
Sewage gas collection reservoir - 68035B/37
ASO/ 07.12.77 MASON S I D11 *US 4165-855
Round baking tin - 67826B/37
CDD 03.05.76 MCDONNELL DOUGLAS CORP B04 D16 J04 =GB 1552-
51
Automatic microbial analyser of pathogen samples in test cards - 64972Y/37
ERE 04.03.78 MERCK PATENT GMBH D22 E19 J04 *DT 2809-475
Aldehyde detection and semi-quantitative determn. in liquids - 66514B/37
ERI 03.10.77 MERCK SHARP & DOHME C03 D22 E13 F09 #GB 1552-503
Antimicrobial, antifungal 1,2,5-thiadiazolone-3.cpds. - 32025A/18
ERI 20.12.77 MERCK & CO INC B04 D16 =J5 4098-319
Antigenic immunogenic complex from Neisseria gonorrhoeae - 47545B/26
ERI 10.03.78 MERCK & CO INC A97 D16 *BE -874-740
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37
ESR 01.02.74 MESSERSCHMITT-BOLKOW-BLO D22 =IT 1031-335
Deodorisation of air - 40992W/25
ETG 22.07.77 METALLGESELLSCHAFT AG D15 J09 =DS 2733-131
Atomiser lance for wastes incinerator - 10136B/06
ICH/ 30.11.77 MICHEL J C D11 *FR 2410-438
Bakery scarifying decorator for top surfaces of dough pieces - 66603B/37
ILE 23.12.74 MILES LABORATORIES INC D13 =J7 9024-452
Salt-free protein concentrate from oilseeds - 07069X/04
ILE 06.01.75 MILES LABORATORIES INC D13 F01 (D12) =J7 9024-457
Prepn of intermittently fused fibrous protein product - 35897X/19
IME= 09.03.77 MINSK HEAT IND ASS D15 J01 *SU -636-193
Separator with axial gas inlet in rotating drum - 67449B/37
INA 24.01.78 UK SEC FOR DEFENCE A97 B04 D16 J01 =GB 2015-552
Affinity chromatography media for protein binding - 61546B/33
INN 23.01.78 MINNESOTA MINING CO A96 D22 G03 (A14 A81) =BR
900-399
Porous pressure-sensitive adhesive coated tape prodn. - 25856B/13
INN 23.01.78 MINNESOTA MINING CO A96 D22 G03 (A14 A81) =NO
900-192
Porous pressure-sensitive adhesive coated tape prodn. - 25856B/13
ITC 20.01.78 MITSUI PETROCHEM IND KK D16 E14 *J5 4098-391
Plant callus growth - 66982B/37
ITK 18.01.78 MITSUI TOATSU CHEM INC D15 *J5 4098-046
Biologically purifying waste water - 66947B/37
ITN 08.12.76 MITSUBISHI GAS CHEM IND A81 D13 E36 =US 4166-807
Oxygen absorbent used as food preservative - 44357A/25
ITQ 23.01.78 MITSUBISHI ELECTRIC CORP D15 *J5 4099-078
Sludge dewatering appts. - 67076B/37
ITR 04.11.76 MITSUBISHI RAYON KK A14 D15 (A91) =DS 2749-295
Water-soluble cationic vinyl polymers - 36891A/21
ITR 25.01.78 MITSUBISHI RAYON KK A96 D22 *J5 4100-181
Fixing member for orthopaedics - 67231B/37
IYA- 10.03.76 MIYAKO KK D16 =J5 2112-592
Accelerating the growth of seaweed - 67261B/37
IYA- 10.03.76 MIYAKO KK D16 *J7 9022-915
Accelerating the growth of seaweed - 67261B/37
OCH= 11.05.76 MOSC CHEM TECHN A88 D15 J01 (A11) *SU -636-007
Joining cellulose acetate filter element edges - 67378B/37
OFO= 07.01.76 MOSC FOOD IND TECH A89 D11 J04 *SU -636-532
Laboratory dough rolling machine - 67618B/37
OFO= 08.06.77 MOSC FOOD IND TECH A91 D17 (A14 A97) *SU -636-
531
Colloid content in sugar-contg. liquids determination - 67617B/37
OLE- 26.11.74 MOLECULAR ENERGY RE A41 D24 E37 M11 (D25) =DS
2553-103
Inorganic monomer and polymer complexes contg. metals - 31907X/18
OMY= 09.02.77 MOSC HYDRO-AMELIOR D15 J01 *SU -636-011
Automatic self-cleaning filter for water and low viscous liquids - 67382B/37
ONS 14.11.77 MONSANTO CO D16 *US 4166-768
Apparatus for continuous cell culture - 68020B/37
ONT/ 09.02.78 MONTAGRONI N D13 *BR 7900-776
Whole citrus fruit juice extractor - B/37
ORI/ 24.02.78 MORI T B04 D13 *DT 2905-669
Foodstuff with strengthening effect - 66547B/37
OTA 05.10.77 MOTALA VERKSTAD AB D15 H09 #US 4166-499
Refuse fired gas generator - 33540B/18
MRSC 10.10.78 MARS LTD D13 (D12) =GB 2015-319
Reducing odour of fish-based food prods. - 27884B/15
MULL/ 30.08.73 MULLER H D16 =DS 2441-334
Aerobic propagation of bacteria, yeasts, fungi, algae - 17991W/11
MULL/ 23.09.78 MULLER E C03 D13 *DS 2841-487
Feedstuff esp. for dogs - 66408B/37

*MURP/ 08.02.78 MURPHEY J D D14 *GB 2015-715
Vending dispenser for snow cones - 66703B/37
*MYAG/ 25.05.77 MYAGKAYA T M A91 D15 E31 (A14) *SU -637-334
Removing hexavalent chromium cpds. from aq. waste - 67742B/37

NAAR 22.02.74 NAARDEN INT NV B07 D23 E15 (D13) =CA 1061-097
Safranic acid esters as aromatising cpds. - 58736W/36
NAFO- 30.09.71 NATFOOD RES INST D16 =J7 9023-995
Maltohexose producing amylase prepn - 38893V/21
NAGM 23.01.78 NAGOYA DAIGAKUCHO D15 (D16) =J5 4099-347
Purifying phosphorus cpd. - contg. waste waters - 56585B/31
NAGM 23.01.78 NAGOYA UNIVERSITY D15 (D16) =SW 7900-545
Purifying phosphorus cpd. - contg. waste waters - 56585B/31
*NAHO/ 05.12.77 NAHON M D21 *FR 2410-474
Cosmetic creams and lotion prodn. - 66606B/37
NAKA- 12.08.75 NAKANO SUMISE D13 E34 =J5 2021-360
Fried egg prodn. - 67350B/37
*NAKA- 12.08.75 NAKANO SUMISE KK D13 E34 *J7 9024-462
Fried egg prodn. - 67350B/37
NALC 06.01.77 NALCO CHEMICAL CO A97 D15 (A17 A25) =DS 2758-540
Eliminating or preventing biological sludge in cooling systems - 49691A/28
NALC 06.01.77 NALCO CHEMICAL CO A97 D15 (A17 A25) =J5 4098-321
Eliminating or preventing biological sludge in cooling systems - 49691A/28
*NATH/ 24.02.78 NATH G A35 D21 (A96) *DT 2808-045
Irradiation appts. for photopolymerisation of dental plastics masses - 66424B/37
*NATT 15.05.78 NAT STARCH & CHEM CORP A11 D13 F09 (A97) *US 4166-173
Reagent soln. for efficient, pollution-free starch phosphorylation - 67935B/37
NATW 27.06.77 NATTERMANN A & CIE GMBH D23 E11 (D13) =GB 1552-397
Demethylation of choline-contg. phospholipid(s) - 06183B/04
NEST 04.12.70 SOC PROD NESTLE SA D13 =DS 2158-295
Edible expanded granules - 35486T/22
NEST 01.12.77 SOC PROD NESTLE SA D14 =FR 2410-444
Impregnating light food particles with a soln., esp. in a tower - 45807A/26
NEST 04.01.78 SOC PROD NESTLE SA D13 =J5 4098-355
Removing flatulent sugars from soya - 40639B/22
NHYD 19.03.74 NORSK HYDRO A/S C03 D13 E33 =US 4166-839
Clacium phosphates of animal feed quality - 52431W/32
NIED/ 08.01.77 NIEDECKER H D12 =US 4165-593
Suspension loop for tubular package, esp. sausage skins - 53647A/30
NIFI- 00.00.76 NIHON FILTER KK D15 M28 =DS 2724-724
Heavy metal recovery from waste water - 89883A/50
*NIJH- 10.05.79 MACH NIJHUIS BV D12 *NL 7903-682
Pig electrocuting installation with automatic separating door - 67367B/37
NIKS 12.12.75 NIPPON KASEI KK D22 E19 =J7 9023-969
Air deodorising aq. emulsion - 54665Y/31
NINA- 04.06.76 JAPAN NATURAL FOOD B04 C03 D13 (D16) #CA 1061-164
Lactic acid bacteria fermented food prod. prepn. - 81156Y/45
NIPK 18.08.77 NIPPON KAYAKU KK B02 C02 D13 =US 4166-865
Animal e.g. cattle, sheep or pigs growth promotion - 16289B/09
*NIRA 18.01.78 UNITIKA KK A96 B04 D22 *J5 4098-091
Wound dressing material - 66949B/37
*NIRA 19.01.78 UNITIKA KK A91 D15 J01 *J5 4097-577
Converting H-type ion exchange resin to magnesium type - 66865B/37
*NIRA 19.01.78 UNITIKA KK A91 D15 J01 *J5 4097-578
Converting H-type chelating ion exchange resin to calcium - 66866B/37
NIRO 22.10.73 NIRO ATOMIZER A/S D13 =SU -637-067
Instant milk powder prodn. - 30858W/19
NISH- 04.07.75 NISHIHARA ENVIRONME D15 J01 =GB 1552-338
Rotary drum filter for sludge bearing liqs. - 04299Y/03
*NISH/ 21.01.78 NISHIDA S D12 *J5 4098-361
Preventing denaturing of actomyosin when freezing minced fish - 66980B/37
NISS- 11.03.75 NISSHIN SUGAR MFG D17 E13 (D16) =J7 9024-472
continuously isomerizing glucose to fructose - 81998X/44
*NISS- 23.01.78 NISSAN SEKKEN KK D25 E17 *J5 4099-106
Detergent compsn. - 67092B/37
NITT 04.11.76 NITTO CHEM IND KK A14 D15 (A91) =DS 2749-295
Water-soluble cationic vinyl polymers - 36891A/21
*NMHB 30.10.78 NORDISCH MASCH R BAADER D12 *DS 2847-188
Fish filleting machine - 66409B/37
*NMHB 14.02.79 NORDISCH MASCH R BAADER D12 *DS 2905-518
Double fish filleting machine - 66412B/37
NORT 21.05.75 NORTON CO D15 =CA 1061-241
Trickling filter for biological fluids - 34438Y/19
NOVO 13.03.75 NOVO INDUSTRI A/S D17 E13 (D16) =CA 1061-270
Continuous isomerisation of glucose syrup - 74328X/40
NOVO 08.01.76 NOVO INDUSTRI A/S B05 D16 =GB 1552-542
(L- alpha)-Aminoacyl-amidase enzyme - 32844Y/19

*ODFO= 26.01.77 ODESS FOOD TECH INS D14 *SU -637-302
Device for packaging plastic consistency products - 67733B/37
OKAZ- 03.12.76 OKAZAKI MFG D15 J03 #GB 1552-155
Electrolytic cell for ionised water - 44238A/25
*OMRO 19.01.78 OMRON TATEISI ELTRN KK A96 B04 D16 J04 *J5 4097-491
Determn. of enzyme activity - 66834B/37
*OPUS- 24.02.78 OPUS CHEMICAL AB D16 E12 (D22) *DT 2906-730
Liquid or tabletted preservative for bacteriological samples - 66558B/37
*ORCH= 24.01.77 ORCHARD VINE WINE D16 *SU -636-259
Saccharomyces vini yeast strain - 67512B/37
*ORCH= 03.02.77 ORCHARD VINE WINE D16 *SU -636-260
Saccharomyces vini yeast strain - 67513B/37
*ORCH= 21.02.77 ORCHARD VINE WINE D16 *SU -636-261
Fruit, esp. apple, wine prodn. - 67514B/37
OREA 26.06.73 L'OREAL SA A96 D21 (A14) =US 4166-109
Polymers absorbing ultraviolet radiation - 82954Y/47
OREA 30.12.77 L'OREAL SA A96 D21 E19 (A25) =J5 4098-342
Cosmetic for removing make/up from the eyes - 48993B/27
ORIY 19.06.75 ORIENTAL YEAST KK B02 D16 (B05) =J7 9024-474
Glutathione and nicotinamide-adenine-dinucleotide (phosphate) recovery - 11733Y/07
OTTK/ 18.02.78 OTT K S D15 =WP 7900-640
Aerobic treatment of waste water by activated sludge - 65803B/36
OUTO 14.02.78 OUTOKUMPU OY D15 J04 =GB 2015-748
Tubular cell for voltameter or polarograph - 61720B/34

*PASE 02.03.78 PASSAVANTW MICHELBACHER D15 J01 *DT 2809-068
Sedimention system for sludge separation - 66475B/37
PERS- 25.10.73 GESENTA COSTA PERSSON FA D22 =IT 1031-020
Enterotomy pocket secured by pressure-sensitive adhesive pad - 17507W/11
*PERS/ 01.03.78 PERSSON B D12 *GB 2015-417
Reciprocating mould plate patty machine - 66664B/37
PFIZ 05.04.74 PFIZER INC A11 D13 (A97 D17) =SU -637-089
Polycondensn. of saccharides to sugar, flour and starch substits. - 69274W/42
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =US 4166-901
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
PICA- 30.05.75 SOC PICA D15 J01 =US 4166-037
Carbon filter to replace sand in treating polluted water - 77595X/42
PILL 26.02.75 PILLSBURY CO D11 =CA 1061-267
Hydroprocessing wheat - 41958X/22
*PLAN= 17.06.77 PLANT PROTECT MICRO D16 *SU -636-253
Microbial culture nutrient gas disperser - 67506B/37
*POKK 19.01.78 POLA KASEI KOGYO KK D25 E17 *J5 4097-609
Creamy detergent compsn. - 66881B/37
*POLY- 20.01.78 POLYPHOS KAGAKU KEN D13 *J5 4098-395
Prodn. of water-retaining miso free of discolouration - 66984B/37
PRIN 26.01.78 PRINCETON APPLIED R D15 J04 =DK 7804-854
Effluent stream analysis appts. using mercury drop electrode - 21891B/11
PRIN 26.01.78 PRINCETON APPL RES D15 J04 =SW 7811-080
Effluent stream analysis appts. using mercury drop electrode - 21891B/11
*PROC 15.10.73 PROCTER & GAMBLE CO A97 D25 E19 *US 4166-039
Homogeneous spray-dried granular detergent compsn. - 67870B/37
PROC 28.01.74 PROCTER & GAMBLE CO A97 D25 E17 (E14) =IT 1031-172
Fat and oil stains-removing washing compsn. - 52755W/32
PROC 31.01.74 PROCTER & GAMBLE CO D25 E19 =IT 1031-312
Detergent compsn contg. smectite clay - 54025W/33
PROC 25.02.74 PROCTER & GAMBLE CO D13 =CA 1061-312
Beverage carbonator - 59128W/36
PROC 03.03.75 PROCTER & GAMBLE CO B05 D16 =CA 1061-268
Optically pure N-acyl-L-methionines - 49824X/26
PROC 06.07.77 PROCTER & GAMBLE EU D25 E19 =NL 7815-023
Pourable, water dispersable conc. liq. fabric softener - 08406B/05
PROC 26.09.77 PROCTER & GAMBLE CO D25 E19 F06 =J5 4099-107
Antistatic, fabric-softening detergent compsn. - 26457B/14
*PURA 04.11.77 PURAC AB D15 *SW 7712-485
Pptn. of dissolved impurities from water - 67782B/37
*PUTT/ 28.02.78 PUTTER W H D11 *NL 7802-195
Prepared cake baking mixture production method - 67360B/37

QPPP 15.07.75 Q.P. CORP D13 =J7 9024-460
Egg white treated to give highly foamed and stable prod. - 17258Y/10
QPPP 09.08.75 Q.P. CORP D13 =J5 2021-366
Double-layered pudding prepn. - 67351B/37
*QPPP 09.08.75 Q.P. CORP D13 *J7 9024-465
Double-layered pudding prepn. - 67351B/37

*RALS 23.01.78 RALSTON PURINA CO D23 F09 *SW 7900-558
Protein binder prodn. from oil seeds - B/37
*RALS 09.02.78 RALSTON PURINA CO C03 D13 *US 4166 867
High performance, palatable horse feed prepn. - 68071B/37
*RALS 01.05.78 RALSTON PURINA CO D13 *BE -875-943
Eliminating foreign matter from vegetable protein esp. soya - 66381B/37
RICT 19.08.76 RICHTER GEDEON VEGY C03 D13 E19 =GB 1552 277
Blemish-preventing compsn. for apples, esp. with red skins - 14040A/06
ROHM 12.05.71 ROHM & HAAS CO B03 C01 D22 E12 =J7 9023 968
Metal complexes of 3-isothiazolones - 76318T/48
*ROSS- 01.06.71 ROSSI E CATELLI SNC D13 *IT 1031-008
Storage stable yogurt prepn. - B/37

SAKB 12.08.77 OTSUKA KAGAKU YAKUHIN D23 E15 =US 4166 188
2-(2-Pentynyl)-cyclopentanol derivs. - 14432B/08
*SANO 03.03.78 SANDOZ-PATENT-GMBH C02 D13 *DT 2809-209
1-Piperazine-alkanoic acid or ethanol derivs. - 66495B/37
*SANY 17.01.78 SANKYO KK B04 D16 *J5 4098-392
Thielavin A and B prepd. using Thielavia fungi - 69983B/37
SAOK 30.06.71 SANYO KOKUSAKU PULP D13 E24 =J4 8012-825
Caesalpinia crista L concentrate prodn. - 67337B/37
*SAOK 30.06.71 SANYO KOKUSAKU PULP D13 E24 *J7 9024-415
Caesalpinia crista L concentrate prodn. - 67337B/37
SATA/ 29.10.75 SATAKE T D13 =GB 1552-448
Rice polishing machine - 34730Y/20
SCHD 25.01.78 SCHERING AG B01 D16 =DK 7900-286
17-Alpha-alkoxy:alkoxy-pregn-4-ene-3,20-di:one derivs. - 56511B/31
SCHD 25.01.78 SCHERING AG B01 D16 =DK 7900-287
17-Alpha-hydroxy-corticoid derivs. substd. by acetal or thio:acetal - 58435B/32
SCHD 25.01.78 SCHERING AG B01 D16 =NO 7900-229
17-Alpha-hydroxy-corticoid derivs. substd. by acetal or thio:acetal - 58435B/32
SCHL- 18.04.77 SCHLEICHER & SCHULL D15 J01 =DS 2717-047
High pressure membrane cell - 78507A/44
*SCHU- 29.04.78 SCHULTE F ZOOLOGISC C03 D13 *DS 2819-034
Compsn. for care of digestive tract of caged birds - 66403B/37
SCIE 30.11.77 SCIENCE UNION & CIE B04 D16 =FR 2410-658
Depsipeptide extract of Fusarium equiseti - 42405B/23
SCMZ 30.07.76 SCM CORP D11 #CA 1061-178
Untempered roll in pastry shortening - 81127X/43
SEAP- 06.09.77 SEA-PAC INC D12 =US 4166-140
Fish, esp. tuna, canning in twin turret machine - 72378A/40
SEAR 04.02.75 SEARLE G D & CO A96 B04 D16 =SW 7901-858
Cytotoxic immunoglobulin preparations - 61881X/33
SEGK 05.12.75 SEIKAGAKU KK B04 D16 #CA 1061-269
Aq. extn. of kallidinogenase from pancreas - 94063X/50
*SEKI 17.01.78 SEKISUI CHEMI IND KK A91 C04 D15 E33 (C03 D13) *J5 4098-043
Treating waste water contg. starchy substances - 66945B/37
*SEKI 17.01.78 SEKISUI CHEMI IND KK A91 C04 D15 (A11 C03 D13) *J5 4098-044
Treating waste water contg. starch substances - 66946B/37
SHEL 14.11.73 SHELL INT RES MIJ BV D23 E15 =IT 1031-033
Cyclic ketones prepn from cyclic olefins - 34661W/21
SHEL 09.12.76 SHELL INT RES MIJ BV D23 E17 =GB 1552-368
Branched chain di:olefin prodn. - 44352A/25
*SHIE 30.12.77 SHINETSU CHEM IND KK D13 E13 *J5 4098-767
3-Hydroxy-4-pyrone cpds. prodn. - 67022B/37
SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =NL 7901-453
7-Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids - 49025B/27
*SHOX 25.01.78 SHOWA ELEC WIRE KK A35 D15 *J5 4100-141
Treating waste water from electric insulating paint - 67229B/37
SIGE 02.02.74 SIGRI ELEKTROGRAPHI GMBH D15 E36 J03 =IT 1031-341
Passive metal electrode for electrochemical cells - 40967W/25
*SLIT 15.08.77 SCHLITZ J BREWING CO A97 D16 (A14) *US 4166-141
Stabilisation of malt beverages - 67917B/37
*SMIN 26.04.78 SMITH & NEPHEW LTD A96 D22 *BE -875-885
Water soluble terpolymers contg. piperidinium methyl units - 66366B/37
*SMIT/ 07.07.75 SMITH D F A96 D21 *US 4166-744
Dry powder zinc oxide contg. adhesive cement - 68009B/37
SNAM 15.07.75 SNAMPROGETTI SPA A97 B02 D16 =GB 1552-453
Adenosine dervis. with 8-omega-carbonyl side chain and prepn. - 06130Y/04
SNAM 04.05.76 SNAMPROGETTI SPA A97 B02 D16 =GB 1552-454
Adenosine dervis. with 8-omega-carbonyl side chain and prepn. - 06130Y/04
SNOW 29.06.72 SNOW BRAND MILK PRODUCTS D13 =J4 9025-157
Liq. cheese prepn. which can be aged in short period - 67349B/37
*SNOW 29.06.72 SNOW BRAND MILK PRODUCTS D13 *J7 9024-459
Liq. cheese prepn. which can be aged in short period - 67349B/37
SNOW 25.12.73 SNOW BRAND MILK PRODUCTS D13 E33 = [illegible] 9024-14[illegible]
Protein recovery from fresh vegetables - 67345B/37
*SNOW 25.12.73 SNOW BRAND MILK PRODUCTS D13 E33 *J7 9024-447
Protein recovery from fresh vegetables - 67345B/37
*SOCE- 02.12.77 SOCEA EAU ASSAINI D15 *FR 2410-634
Plant for thickening and drying sewage sludge - 66620B/37

PEI- 26.11.74 SPEICHIM SOC EQUIP IND D15 =IT 1031-258
Mineral salts removal from aq phenolic effluents - 67297W/41

QUI 08.06.77 SQUIBB E R & SONS INC A96 D22 G04 (A18) =US 4166-
51
Formable compsn. used as protective layer for stoma in surgery - 89644A/50

QUI 13.10.77 SQUIBB E R & SONS INC B04 C03 D16 (C02) *US 4166-118
Inhibiting growth of mycoplasma(s) - 67905B/37

TAD 15.10.74 STANDARD OIL CO (IND) C01 D22 E12 H06 (C03 E16) *US
166-725
Fuel compsns. stable against microbial growth on storage - 67999B/37

TAD 22.08.77 STANDARD OIL CO (IND) D16 *US 4166-135
Yeast prod. of uniform bland flavour - 67913B/37

TAK- 23.01.78 STAKE TECHNOLOGY C03 D13 F09 #BR 7800-392
Feeding natural cellulose fibre into steam pressure vessel - 38581A/22

TAL 19.02.70 STALEY A E MFG CO A87 D17 F06 =J7 9024-038
Starch semiester amine salt for hydrophobicf - 56856S/35

TAU 03.02.75 STAUFFER CHEMICAL CO D13 *US 4166-142
Processed cheese contg. modified whey solids - 67918B/37

TEI 30.08.77 STEINECKER A MASCH GMBH D16 =DT 2808-712
Plant to mfr. beer wort by hydrating crushed malt - 74492A/42

UGA= 15.03.77 SUGAR IND RES D17 J01 *SU -636-034
Centrifuge for sepn. of solids suspended in viscous fluids - 67399B/37

UID- 26.12.77 SUIDDKIKO KK D15 E36 *J5 4099-349
Removing arsenic from water - 67144B/37

ULA- 24.02.78 SUOMEN LAAKETEHDAS B06 D13 =DT 2906-697
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27

ULA- 24.02.78 SUOMEN LAAKETEHDAS B06 D13 =NL 7901-469
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27

ULZ 01.12.77 SULZER FRERES SA D14 K08 *FR 2410-503
Chamber for radioactive irradiation of granular animal feed, etc. - 66613B/37

SUMB 22.11.74 SUMITOMO BAKELITE KK A97 B07 C03 D13 (A11 A92) =CA 1061-163
Water-sol edible thermoplastic articles esp for food packaging - 42374X/23

SUMB 20.01.78 SUMITOMO BAKELITE KK A96 D21 *J5 4098-854
Paper for bundling hair before coiling in permanent wave formation - 67037B/37

SUMH 23.01.78 SUMITOMO SHIPBUILDING KK D15 *J5 4099-084
Pretreatment of waste water prior to reverse osmosis - 67080B/37

SUMO 20.03.74 SUMITOMO CHEMICAL KK A32 B07 D22 F01 (A11 A94 A96) =CA 1061-068
Absorbent water sol pullulan fibres prepn. - 69176W/42

SUMO 21.01.75 SUMITOMO CHEMICAL KK C02 D22 E13 =J7 9024-444
Herbicidal and fungicial pyridyl triazinones - 58212X/31

SUMO 26.08.75 SUMITOMO CHEMICAL KK A60 C03 D22 E19 (D15) =J7 9024-442
Nonmedical, antibacterial agents for controlling plant dieseases - 26292Y/15

SUMO 19.01.78 SUMITOMO CHEMICAL KK D15 J04 =J5 4098-296
Analysis of total nitrogen content of aq. systems - 54496B/30

SUMO 21.01.78 SUMITOMO CHEMICAL KK A88 D15 J01 =J5 4099-083
Semipermeable membranes prodn. from acrylonitrile polymers - 52848B/29

SUNO 19.04.71 SUNTECH INC D23 E19 H07 *US 4166-796
Friction modifying compsn. - 68038B/37

• SUNO 19.04.71 SUNTECH INC D22 E17 H07 *US 4166-797
Lubricating oil contg. friction modifying compsn. - 68039B/37

SUNR 29.01.74 SUNTORY LTD C03 D13 (D16) =J5 0105-479
Silkworm feed for improving cocoon weight - 67260B/37

• SUNR 29.01.74 SUNTORY LTD C03 D13 (D16) *J7 9022-907
Silkworm feed for improving cocoon weight - 67260B/37

• SUZU/ 21.01.78 SUZUKI Y C03 D15 E36 *J5 4098-320
Removal of slime from pipe, etc. - 66964B/37

SVME- 25.01.78 SVENSKA MEJERIERNAS D13 =DK 7805-481
Continuous prodn. of buttery prod. spreadable at low temps. - 37197B/20

SVME- 25.01.78 SVENSKA MEJERIERNAS D13 =NO 7804-206
Continuous prodn. of buttery prod. spreadable at low temps. - 37197B/20

SVME- 25.01.78 SVENSK MEJER RIKSFO D13 =SW 7800-900
Continuous prodn. of buttery prod. spreadable at low temps. - 37197B/20

TAKE 25.03.72 TAKEDA CHEMICAL IND KK A97 D16 (D25) =J7 9023-994
Dust-free powdered compsn contg protease prepn - 52153U/36

• TAMA/ 06.06.75 TAMARCHENKO M E C03 D13 *SU -637-112
Agricultural animal feed supplement - 67638B/37

TATL 15.02.79 TATE & LYLE LTD D13 =GB 2015-533
Rapid, high yield thaumatin extraction - 65018B/36

• TEIJ 25.01.78 TEIJIN KK D13 E36 *J5 4099-791
Oxygen absorbent for use with food - 67208B/37

• TEIJ 25.01.78 TEIJIN KK D13 E36 *J5 4099-792
Oxygen absorbent for hermetically sealed food containers - 67209B/37

• TEIJ 25.01.78 TEIJIN KK D13 E36 *J5 4099-793
Oxygen absorbent for food containers and detectors - 67210B/37

• TEIJ 25.01.78 TEIJIN KK D13 E36 *J5 4099-794
Oxygen absorbing agent e.g. the use in food containers - 67211B/37

TEPR- 29.11.73 TEPRAL CENTRE D16 =IT 1031-040
Continuous flow retort for brewing beer wort - 27535W/17

TEPR- 02.02.77 TEPRAL D16 =US 4165-643
Effervescent liquid sampling process - 59028A/33

TETR 23.01.78 TETRA PAK DEV SA D12 =NO 7900-189
Working up fish raw material for human nutrition - 56545B/31

TETR 23.01.78 TETRA PAK INT AB D12 =SW 7800-776
Working up fish raw material for human nutrition - 56545B/31

• TETR 05.05.78 TETRA WERKE GMBH D15 *BE -875-961
Treating water for aquariums using cation exchanger - 66384B/37

TEXC 27.02.78 TEXACO DEV CORP D25 E12 H01 =GB 2015-522
Detergent and surfactant ether sulphonate cpds. prepn. - 67361B/37

• TEXC 27.02.78 TEXACO DEV CORP D25 E12 H01 *NL 7901-471
Detergent and surfactant ether sulphonate cpds. prepn. - 67361B/37

• THAM- 19.12.77 THAMES WATER AUTHOR D15 *GB 2015-419
Extruding and pelletising sewage sludge - 66665B/37

• THIN- 17.02.79 THIN CONDUCTIVE COA B04 D22 *WP 7900-638
Prodn. of thrombosis resistant surfaces - 68111B/37

• TOKA- 21.01.78 TOKAI PULP KK D15 E34 F09 *J5 4099-343
Oxidn. of sodium sulphide-contg. alkaline soln. - 67140B/37

• TOKE 23.01.78 TOKYO SHIBAURA ELEC LTD D15 *J5 4099-345
Reducing ozone requirement for decolourising waste sewage water - 67142B/37

TOKF- 16.09.75 TOKYO FOOD CHEMICAL D13 =J5 2038-054
Improving storage stability of fruit - 67348B/37

• TOKF- 16.09.75 TOKYO FOOD CHEMICAL D13 *J7 9024-455
Improving storage stability of fruit - 67348B/37

TOKU 14.02.75 TOKUYAMA SODA KK D16 E17 (D13) =J7 9024-473
L-tartaric acid prepd from cis-epoxysuccinic acid - 74917X/40

• TOPP 19.01.78 TOPPAN PRINTING KK D13 E13 (E34) *J5 4098-348
Food preservation agent contg. ascorbic acid (salt) - 66978B/37

TOPP 19.01.78 TOPPAN PRINTING KK D13 =J5 4098-358
Preserving vegetables and fruit during storage - 40838B/22

• TOSU- 22.07.76 TOYO SUISAN KAISHA D11 *US 4166-139
Instant, cupped noodles prodn. - 67916B/37

• TOXN 27.01.77 TOYO BREWING KK B03 D16 *J5 4098-793
Deacylated antibiotics - 67033B/37

• TSZE 24.02.78 TATABANYAI SZENBANYAK D15 J01 *DT 2907-146
Liquid purification by flotation process - 66569B/37

• TUCH- 25.02.78 FA TUCHENHAGEN O D13 *DT 2808-176
Beverage tank interior cleaning control - 66428B/37

TYLE/ 21.10.77 TYLER T V D15 =J5 4099-086
Water purification plant - 33615B/18

• TYRE/ 24.04.78 TYREE L D18 (D14) *US 4165-618
Tobacco or food treatment by liquid cryogen - 67799B/37

UGIN 02.12.77 UGINE KUHLMANN D25 E34 =FR 2410-627
Sodium percarbonate compsns. stable to storage in washing powders - 12745Y/08

• UGLI= 18.07.77 UGLICH BUTTER CHEES D13 *SU -637-109
Cheddar type cheese prodn. - 67636B/37

UKSO- 05.03.79 UK SEC SOCIAL SERV B04 D16 =GB 2015-531
Sepn. of leukocytosis producing factor haemagglutinin prepn. - 65022B/36

• UNEX- 30.01.78 UNION EXPLOSIV RIO D17 *BR 7900-593
Diacetone alcohol prepn. - B/37

UNIC 23.12.77 UNION CARBIDE CORP C04 D15 M28 =BR 7808-434
Removing heavy metals from waste activated sludge - 47205B/26

UNIC 23.12.77 UNION CARBIDE CORP C04 D15 M28 =J5 4100-140
Removing heavy metals from waste activated sludge - 47205B/26

UNIC 27.01.78 UNION CARBIDE CORP D12 =BR 7900-636
Wrapping for food products esp. sausages - 56294B/31

UNIC 27.01.78 UNION CARBIDE CORP D12 =SW 7900-720
Wrapping for food products esp. sausages - 56294B/31

UNIC 09.03.78 UNION CARBIDE CORP D12 =BE -874-703
Inserting sizing disc into casing esp. for viscous meat emulsion - 56110B/30

UNIL 10.05.72 LEVER BROTHERS CO D13 =US RE30-086
Randomised palm oil - 73278U/48

UNIL 30.05.75 UNILEVER LTD D13 =CA 1061-170
Instant beverage cube mfr., esp. lemon-tea - 46861Y/26

UNIL 12.06.75 UNILEVER LTD B04 C03 D16 =CA 1061-252
Vaccines contg. antigens adsorbed on erythrocytes - 96248X/52

UNIL 10.09.76 UNILEVER NV C03 D23 =DS 2740-752
Purifying tri:glyceride cpds. by adding hydratable phosphatide - 19676A/11

UNIL 19.12.77 UNILEVER NV D23 E17 =J5 4098-702
Selective hydrogenation of polyunsaturated cpds, esp. oils - 45715B/25

UNIL 22.12.77 UNILEVER NV A97 D25 E19 (A25) =BR 7808-426
Aq. detergent compsn. esp. for dish washing - 47208B/26

UNIL 22.12.77 UNILEVER NV D25 E34 =BR 7808-427
Granular bleach activators - 49431B/27

UNIL 22.12.77 UNILEVER NV A97 D25 E19 =BR 7808-428
Stable liq. detergents with low hydrotrope content - 49430B/27

UNIL 22 12 77 UNILEVER NV A97 D25 E19 (A25) =J5 4099-108
Aq. detergent compsn. esp. for dish washing - 47208B/26
UNIL 22 12 77 UNILEVER NV A97 D25 E19 =J5 4099-109
Stable liq. detergents with low hydrotrope content - 49430B/27
UNIL 03 01 78 UNILEVER NV D13 =J5 4098-371
Smoke liquid concentrate for food flavouring - 50867B/28
*UNIL 01 03 78 UNILEVER NV A96 D21 E17 (A25 E14) *DT 2907-792
Toilet soap bar based on acyl isethionate - 66591B/37
UNIL 02 03 78 UNILEVER NV D25 E33 =DT 2907-791
Sodium aluminosilicate aq. suspension for detergent mfr. - 63167B/35
*UNIL 06.03 78 UNILEVER LTD D21 E19 *GB 2015-561
Aq. liq. soap contg. sulphonated ester or amide - 66686B/37
UNIL 16.11.78 UNILEVER LTD D25 E19 (E37) =GB 2015-603
Aq. bleaching compsn., esp. hypochlorite, coloured by pigment - 38987B/21
UNIL 28.02.79 UNILEVER NV D25 E33 =GB 2015-488
Sodium aluminosilicate aq. suspension for detergent mfr. - 63167B/35
UNIL 28.02.79 UNILEVER LTD A96 D21 E17 (A25 E14) =GB 2015-559
Toilet soap bar based on acyl isethionate - 66591B/37
USFI 04.05.76 US FILTER CORP D15 #CA 1061-327
Mixing or flotation appts - 63262X/33
*USNA 20.03.78 US SEC OF NAVY C03 D16 *US 4166-112
Bacterial larvicide contg. specific strain of Bacillus thuringiensis - 67902B/37
UYCH- 10.09.75 UNIV CHICAGO B04 D16 =GB 1552-497
(16)-Fluoro prostaglandin analogues - 18176Y/11
UYCH- 10.09.75 UNIV CHICAGO B04 D16 =GB 1552-498
(16)-Fluoro prostaglandin analogues - 18176Y/11
UYCH- 10.09.75 UNIV CHICAGO B04 D16 =GB 1552-499
(16)-Fluoro prostaglandin analogues - 18176Y/11
UYCH- 10.09.75 UNIV CHICAGO B04 D16 =GB 1552-500
(16)-Fluoro prostaglandin analogues - 18176Y/11
UYFL- 19.05.77 UNIV OF FLORIDA D22 L01 M13 =GB 1552-570
Metal-coated biologically active glass - 78321A/44

VELO- 29.11.74 VELO ENOMECCANICA D16 =IT 1031-041
Filtering appts. for wine-making industry - 31918X/18
VOIJ 28.01.78 VOITH J M GMBH D15 E12 F09 =SW 7900-652
Purifying waste water from old paper processing - 58253B/32
*VOLK- 28.02.78 VOLKSEIGENES GUT D15 *DT 2905-347
Microbiological liq. manure purification to avoid pollution - 66541B/37
VYSO- 20.01.78 VYSOKA SKOLA STROJ TEXT A97 D16 #J5 4098-367
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

WARN 07.03.75 WARNER-LAMBERT CO A96 B04 D16 =CA 1061-229
Cells of Staphylococcus aureus contg. a dye - 57866X/31
*WATE= 04.08.77 WATER SUPPLY ENGGS D15 *SU -637-335
Automatic aq. effluent cleaning sludge densimeter - 67743B/37
WELL 01.12.77 WELLCOME FOUNDATION LTD B04 D16 =FR 2410-675
In vitro propagation of rota-viruses - 42416B/23
WERN 25.01.78 WERNER & PFLEIDERER D11 =SW 7900-613
Baking oven heat exchanger - 02020B/02
WESS 30.11.77 WESTFALIA SEPARATOR AG D13 #FR 2410-441
Appts. for sepg. fruit pulp from seed kernel and skin - 17994B/09
WIGG 02.08.76 WIGGINS TEAPE LTD A88 D18 F09 =US 4166-090
Fibrous element e.g. cigarette filter formed from fibre suspension - 86637Y/49
WINK 28.03.73 FR WINKLER SPEZ KG D11 =DS 2315-418
Hot gas circulation multi deck baking oven - 73118V/42
*WISC 09.08.76 WISCONSIN ALU RES FOUND B04 D16 J04 *US 4166-766
Quantitative assay of alkaline phosphatase isoenzyme in serum - 68019B/37
WOLF- 07.02.74 WOLFF R APP KG D14 =IT 1031-428
Continuous flow food pressure cooker - 40994W/25
WORL- 29.08.77 WORLD DEV LABS D15 J01 =J5 4099-085
Reducing impurity concn. of solution by reverse osmosis - 18520B/10
WORL- 29.08.77 WORLD DEV LABS D15 J01 =J5 4099-087
Reducing impurity concn. of solution by reverse osmosis - 18520B/10
*WYSS 01.03.78 ESCHER WYSS AG A32 D14 J02 *DT 2810-507
Calender with stack of flexible sleeve cylinders - 66516B/37
WYSS 01.03.78 ESCHER WYSS LTD A32 D14 J02 =GB 2015-375
Calender with stack of flexible sleeve cylinders - 66516B/37

*YAMA/ 07.08.75 YAMATO H D14 *CA 1061-273
Bucket conveyor - 66392B/37
YAMS 27 02 78 YAMASA SHOYU KK B04 D16 (D13) =GB 2015-532
L-Lysine-alpha-oxidase prodn. from Trichoderma viride - 64923B/36
*YOKO/ [illegible] YOKOYA [illegible] D16 *BR 7800-640
Industrial fermentation process - B/37

ZIEM/ 31 12 75 ZIEMKE W H A97 D11 =CA 1061-174
Sourdough bread flavouring comspn. - 50339Y/28

170-R BD
-740-376 R16
1824-068 R39
S 3658-921 T20
B 1277-943 T24
-96-391 T46
H -537-356 U35
5003-577 W17 +
S 1804-068 Y15
1031-002 B37 +

422-R DE
6917-269 R22
-742-058 R22
T 1956-947 R26
A 6907-966 R30
R 2023-905 R48
-78-737 S17
H 510-115 S37
B 1255-370 S47
S 3676-367 T30
7 3004-313 U06
A -935-423 U48
1031-003 B37

156-S D
T 1937-433 S07
S 1937-433 B37

340-S D
T 2031-271 S08
R 2057-168 S33
B 1281-510 T28
S 3693-256 T41
U -344-615 U18
1031-005 B37

7360-S D
T 2002-169 S10
A -914-986 T49
7 5014-650 W26
S 2002-169 B37

3069-S D
E -756-507 S13
T 2046-895 T05
L 7014-093 T06
R 2109-084 T38
S 3693-322 T41
B 1321-299 U26
A -939-605 V03
S 2046-895 X15
L -155-456 A07
7 9001-481 B08
1031-006 B37

6856-S ADF
E -763-169 S35
L 7102-197 S36
T 2107-277 S37
4 6002-194 S41
R 2090-495 T14
4 7028-078 T51
B 1342-682 V01
A -939-339 V02
H -549-059 V26
7 9024-038 B37

3240-S D
T 2116-894 S43
L 7104-653 S43
4 6004-534 S47
R 2089-414 T13
S 3732-266 U21
B 1349-528 V14
A 1008-463 Y17
S 2116-894 B37

5486-T D
E -775-674 T22
4 7011-974 T26
T 2158-295 T33
A 7107-692 T36
H -524-960 T37
R 2117-247 T45
B 1311-410 U13
S 3835-226 V38
A -957-194 V47
S 2158-295 B37

6318-T BCDE
L 7205-866 T48
T 2216-108 T49
E -783-251 U01
R 2139-421 U12
4 8048-465 U37
L -101-094 V01
H -552-338 V39

GB 1390-443 W15
OE 7308-694 W19
US 4150-026 B18
J5 4073-776 B30
J7 9023-968 B37

29115-U AD
DT 2253-672 U21
US 3732-163 U21
FR 2158-494 U34
GB 1363-608 V33
J4 8053-557 B37
J7 9024-216 B37

43112-U BD
DT 2301-080 U31 +
FR 2167-910 U45
J4 9047-591 V40
J4 8075-794 V04
J4 8091-281 V08
J7 9023-997 B37
J7 9024-477 B37

52153-U AD
BE -797-215 U36
NL 7304-126 U42
DT 2314-516 U43
FR 2177-938 V01
J4 8096-784 V11
US 3846-240 V46
GB 1403-173 W34
CA 1005-770 Y09
J7 9023-994 B37

54872-U AD
DT 2309-905 U38
FR 2174-919 U52
J4 8101-794 V09
GB 1415-385 W48
CA 1026-886 A10
J7 9024-239 B37

57057-U DEH
J4 8044-486 U39
J7 9023-996 B37

73278-U D
NL 7306-450 U48
BE -799-387 U48
DT 2323-451 U52
FR 2184-032 V07
J4 9048-704 V28
US 3939-282 X09
GB 1431-906 X16
CA 1005-689 Y09
SW 7609-094 Y12
US RE30-086 B37

77904-U BD
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BE -800-132 U51
NL 7306-986 U51
FR 2189-023 V12
ZA 7303-571 V22
J4 9041-527 V46
US 3886-270 W23
AR -201-193 W40
GB 1437-006 X22
OE 7304-592 X40
SW 7608-007 Y10
CA 1020-461 Y47
DS 2225-548 B37

00356-V D
DT 2328-913 V01
US 3805-956 V18
ZA 7303-848 W10
DS 2328-913 A19
IT 1031-013 B37 +

00655-V D
NL 7308-423 V01
BE -801-127 V03
DT 2331-192 V03
FR 2189-328 V12
J4 9051-765 V30
US 3846-289 V46
GB 1430-410 X14
CH -572-870 X15
CA -986-239 X15
US 3956-129 X21
IL --42-496 X27
DT 2366-033 Y29
J7 7045-138 Y49
DS 2331-192 A35
NL -161-115 B36
J5 4099-348 B37

14229-V BD
J4 8088-286 V08
US 3925-546 W52
J7 9023-998 B37

38893-V D
J4 8039-688 V21
J7 9023-995 B37

40052-V D
DT 2253-743 V22 +
DS 2253-743 B37 +

40315-V ABD
DT 2356-630 V22 +
BE -807-564 V23 +
NL 7315-887 V23 +
J4 9093-588 V45 +
FR 2217-348 V49 +
PT --60-849 V52 +
ZA 7308-457 V43
US 3887-432 W24 +
HU T011-585 X26 +
GB 1449-808 X38 +
IL --43-590 X42 +
CH -587-266 Y22 +
SU -578-834 A38
CA 1061-266 B37 +

60607-V BD
J4 9042-889 V34
J7 9024-476 B37

73111-V DEM
DT 2315-297 V42
NL 7404-001 V42
FR 2223-353 W04
OE 7402-442 X07
GB 1433-560 X18
DS 2315-297 B37

73118-V D
DT 2315-418 V42
DS 2315-418 B37

17507-W D
BE -821-081 W11
NL 7413-518 W20
DT 2449-135 W20
SW 7314-477 W25
DK 7405-386 W30
SF 7403-007 W32
FR 2248-822 W33
DL -114-512 W40
CH -583-026 Y02
GB 1470-419 Y15
OE 7408-260 B01
IT 1031-020 B37

17991-W D
DT 2441-334 W11
FR 2245-762 W27
DL -113-023 W28
GB 1431-850 X16
CH -578-618 X39
US 3986-934 X44
IT 1020-270 A14
DS 2441-334 B37

25885-W D
BE -822-340 W16
FR 2261-983 W50 +
IT 1031-351 B37 +

27535-W D
BE -822-777 W17 +
DT 2456-537 W24 +
NL 7415-653 W25 +
DK 7406-194 W35
FR 2253-089 W38
J5 0111-291 W44 +
BR 7409-974 X24 +
FR 2288-146 X33 +
US 3989-848 X46
GB 1495-952 Y51 +
GB 1495-953 Y51 +
CA 1036-522 A35 +
IT 1031-040 B37 +

29258-W D
DT 2351-072 W18 +
IT 1031-011 B37

30858-W D
DT 2352-894 W19
NL 7413-829 W19
SW 7413-221 W24
DK 7405-467 W29

FR 2247-980 W30
SF 7403-058 W32
J5 0105-859 W42
DL -115-569 X01
ZA 7406-574 X03
US 3956-521 X21
GB 1462-709 Y04
CA 1029-594 A18
SU -637-067 B37

34661-W DE
DT 2453-660 W21
BE -821-979 W22
NL 7414-714 W22
J5 0082-033 W35
FR 2257-560 W44
US 4025-562 Y22
GB 1492-525 Y47
IT 1031-033 B37

39260-W D
BE -824-543 W24
NL 7503-148 W40
DT 2412-900 W40
J5 0125-977 W48
FR 2264-561 X02
OE 7500-811 Y13
GB 1486-515 Y38
US 4117-110 A40
CH -609-245 B12
IT 1031-449 B37

40967-W DEJ
BE -824-754 W25 +
DT 2405-010 W33
NL 7417-054 W34 +
DT 2412-828 W39
SW 7501-094 W39 +
NO 7404-435 W40 +
J5 0109-176 W43 +
FR 2259-921 W47 +
DT 2420-011 W47 +
ZA 7500-399 X13
DS 2405-010 X28
GB 1443-502 X30 +
OE 7409-558 Y05
US 4029-566 Y25
US 4078-988 A15
CA 1040-137 A43 +
IT 1031-341 B37 +

40992-W D
BE -824-933 W25
NL 7500-521 W34
DT 2404-678 W34
DK 7406-729 W44
FR 2259-619 W47
IT 1031-335 B37

40994-W D
BE -824-936 W25
NL 7501-256 W34
DT 2405-807 W35
FR 2260-357 W48
DL -118-522 X22
US 3965-806 X28
GB 1487-814 Y40
CA 1042-703 A49
SU -615-840 B21
IT 1031-428 B37

41024-W D
BE -825-076 W25
DT 2502-664 W38
NL 7501-704 W39
SW 7403-019 W44
NO 7500-508 W45
J5 0121-461 W47
DK 7500-900 W50
SF 7500-239 W51
FR 2262-910 W52
GB 1451-747 X41
CH -581-424 X52
OE 7501-811 A40
US 4140-806 B09 +
CA 1050-438 B15
DS 2502-664 B26
IT 1031-264 B37

42726-W D
BE -825-201 W26
FR 2259-794 W47
DT 2504-829 X02
GB 1468-770 Y13
CH -598-143 A19
IT 1031-488 B37

47482-W CD
US 3892-553 W28 +
DS 2519-164 X27 +
NL 7505-018 X46 +
SW 7504-268 X48 +
FR 2307-776 Y07 +
GB 1504-031 A11 +
IT 1028-415 B16 +
CA 1061-129 B37

49658-W ADF
DT 2461-920 W30
NL 7500-023 W30
SW 7500-063 W35
J5 0095-574 W39
FR 2256-979 W43
US 3950-219 X17
GB 1460-398 Y01
CA 1061-194 B37

50917-W D
BE -824-315 W31
DT 2503-486 W33
NL 7501-058 W34
SW 7501-088 W39
J5 0114-407 W45
FR 2259-896 W47
US 4038-295 Y31
GB 1486-169 Y38
CA 1053-695 B22
IT 1031-320 B37

50992-W ADHJ
BE -826-707 W31
DT 2412-452 W39
NL 7503-090 W40
FR 2263-982 X01
OE 7501-910 Y18
GB 1509-042 A17
CH -598-141 A19
IT 1031-062 B37

52431-W CDE
BE -826-881 W32
DT 2512-099 W40
NL 7503-212 W41
SW 7502-984 W46
DK 7501-095 W51
BR 7501-598 X01
FR 2264-775 X02
SF 7500-784 X04
J5 0157-299 X04
DL -116-205 X05
IL --46-825 Y16
HU T013-111 Y19
GB 1497-716 A02
DS 2512-099 A29
CA 1060-631 B36
US 4166-839 B37

52755-W ADE
DT 2502-433 W32 +
BE -824-848 W33 +
NL 7500-903 W33 +
FR 2259-148 W46 +
J5 0123-704 W48 +
GB 1489-694 Y43 +
CA 1040-962 A45 +
IT 1031-172 B37 +

54025-W DE
BE -824-980 W33
NL 7501-088 W33
DT 2503-585 W34
SW 7500-837 W38
FR 2259-898 W47
US 3948-790 X16
GB 1462-484 Y04
CH -596-298 A15
OE 7500-705 B22
CA 1057-907 B32
IT 1031-312 B37

55690-W D
BE -827-383 W34
DT 2415-225 W41
FR 2274-682 X14
OE 7403-536 X24
GB 1471-821 Y17
DS 2415-225 Y21
IT 1031-153 B37

55922-W D
DT 2503-636 W34
BE -825-133 W34
NL 7501-312 W34
J5 0115-169 W45
FR 2259-546 W47

GB 1484-536 Y35
CH -604-570 A41
SU -589-895 A49
IT 1031-068 B37

55942-W CD
DT 2504-392 W34
BE -825-102 W34
NL 7412-851 W34
J5 0107-154 W42
FR 2259-545 W47
ZA 7500-742 X13
PT --63-322 X22
US 3958-031 X22
OE 7403-066 X46
CH -584-519 Y16
GB 1493-469 Y48
CA 1040-475 A44
IT 1031-481 B37

58736-W BDE
BE -825-841 W36
NL 7502-124 W37
DT 2508-059 W37
J5 0117-946 W46
FR 2262-018 W50
GB 1456-152 X47
CA 1050-043 B12
US 4144-199 B12
CA 1061-097 B37

58739-W D
BE -827-695 W36
DT 2515-021 W42
NL 7504-019 W43
SW 7503-960 W48
NO 7501-175 W49
J5 0142-766 X02
DK 7501-502 X03
SF 7501-051 X04
FR 2266-464 X04
DL -117-591 X14
ZA 7501-708 X17
GB 1486-069 Y37
IL --46-862 A06
SU -576-010 A35
CS 7502-410 A38
HU T015-556 A45
OE 7502-648 B13
CA 1050-909 B13
SW 7902-357 B37
SW 7902-358 B37

59128-W D
DT 2507-442 W36 +
BE -825-867 W37 +
NL 7502-151 W37 +
SW 7502-039 W43 +
DK 7500-733 W47 +
FR 2261-978 W50 +
J5 0151-795 X03 +
ZA 7500-969 X48
BR 7501-141 X49 +
US 4007-134 Y07 +
GB 1489-121 Y42 +
OE 7501-407 A22 +
US 4147-808 B15 +
US 4110-255 B16 +
IT 1029-837 B25 +
CA 1061-312 B37 +

67297-W D
BE -826-979 W41
ZA 7502-597 X21
NL 7503-380 X24
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J5 1062-185 X28
FR 2292-675 X41 +
GB 1470-273 Y15
J7 7027-116 Y32
IT 1031-258 B37

67306-W D
BE -827-026 W41
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DT 2512-639 W43
SW 7503-140 W46
J5 0130-797 W50
FR 2264-815 X02
DK 7501-221 X02
OE 7502-150 A06
GB 1504-125 A11
CA 1049-551 B11
IT 1030-399 B26
US 4166-823 B37

69176-W ABDF
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FR 2264-896 X02
DS 2512-110 X48
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GB 1496-017 Y51
J7 8035-165 A42
CA 1061-068 B37

69274-W AD
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NL 7504-018 W43
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DK 7501-437 X03
SF 7500-976 X04
FR 2266-742 X04
GB 1422-294 X04
BR 7501-950 X06
DL -117-234 X14
ZA 7502-131 X21
PT --63-587 X27
HU T011-928 X33
CA 1031-332 A22
CH -602-796 A37
OE 7502-566 A40
J7 8047-280 B03
SU -637-089 B37

70058-W D
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SW 7415-437 W47
NL -159-569 B13
US 4166-868 B37 +

79015-W D
DT 2505-149 W48
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US 4142-535 B11 +
CA 1061-096 B37 +

79458-W D
J5 0125-065 W48
US 3934-053 X05
CA 1020-803 Y48
J7 9024-464 B37

04657-X D
J5 0107-184 X03
J7 9024-471 B37

07069-X D
US B535-944 X04
BE -836-820 X21
NL 7514-927 X28
DT 2557-782 X28
J5 1086-149 X37
FR 2295-702 X45
ZA 7507-395 Y01
DS 2557-782 A17
GB 1515-689 A26
IL --48-528 A28
J7 9024-452 B37

15642-X DE
J5 1004-218 X09 +
J5 0155-658 B37

31907-X ADEM
BE -835-992 X18 +
NL 7513-824 X24 +
NO 7503-974 X29
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DK 7505-304 X35 +
SF 7503-326 X35 +
SW 7513-226 X38 +
FR 2292-663 X41 +
ZA 7507-451 Y01
J5 1132-196 Y01
US 4029-747 Y25 +
BR 7602-116 Y45
OE 7509-002 A31 +
DT 2559-974 A34 +
GB 1532-416 A46 +
IL --48-545 B02 +
CH -612-403 B35 +
DS 2553-103 B37 +

31918-X D
BE -836-069 X18
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PT --64-486 X44
GB 1524-219 A36
OE 7506-443 A48
IT 1031-041 B37

35897-X [illegible]
US 3953-612 X19
BE -836-491 X20
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GB 1489-964 Y43
IL --48-475 A28
DS 2600-219 B10
J7 9024-457 B37

41958-X D
US 3958-016 X22
BE -838-946 X30
DT 2607-829 X38
SW 7602-319 X41
J5 1110-053 X46
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GB 1508-111 A16
CA 1061-267 B37

42374-X ABCD
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NL 7513-527 X24 +
J5 1061-648 X28
J5 1070-834 X31
J5 1070-835 X31
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GB 1532-783 A47 +
CA 1061-163 B37 +

49824-X BD
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BE -839-140 X39
NL 7602-187 X39
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SW 7602-751 X43
DK 7600-878 X48
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J5 1142-595 Y04
GB 1529-633 A43
OE 7601-531 B09
CA 1061-268 B37

53254-X BD
J5 1061-695 X28
J7 9024-479 B37

57866-X ABD
BE -839-145 X31
NL 7602-094 X39
DT 2608-733 X39
SW 7602-866 X43
NO 7600-768 X44
US 3990-947 X47
J5 1117-095 X48
DK 7600-956 X48
FR 2303-291 Y02
GB 1490-466 Y44
CA 1061-229 B37

58212-X CDE
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NL 7600-626 X32 +
J5 1086-132 X37
FR 2298-276 X48 +
J5 1125-747 X51
US 4033-752 Y28
GB 1501-811 A08 +
US 4081-267 A20
CA 1046-061 B05
J7 9024-444 B37

61881-X ABD
DT 2603-120 X33
FR 2299-872 X50
US 4046-722 Y37
FR 2362-119 A20
GB 1541-436 B09 +
GB 1541-435 B09
SW 7901-858 B37

61942-X DEF
DT 2603-871 X33
BE -838-173 X34
NL 7601-096 X34
J5 1102-358 X43
FR 2299-273 X49
US 4000-069 Y02
OE 7600-694 Y22
GB 1520-815 A32
IT 1031-430 B37

63262-X D
US 3972-815 X33
NL 7605-028 Y48 +

DT 2620-727 Y48+
GB 1521-785 A33+
CA 1061-327 B37+

66092-X D
US 3975-550 X39
CA 1061-173 B37

72229-X D
BE -841-557 X39
US 3985-909 X43
DT 2619-000 Y15
NL 7604-781 Y16
SW 7604-837 Y20
FR 2326-152 Y27
CH -598-772 A24
GB 1521-179 A33
CA 1061-167 B37

72937-X D
J5 1091-361 X39+
GB 1465-396 Y08
J4 9124-242 B37

74328-X DE
DT 2609-602 X40
BE -839-498 X40
NL 7602-644 X40
SW 7603-167 X44
J5 1112-591 X47
DK 7601-097 X49
FR 2303-857 Y03
GB 1547-223 B23
CA 1061-270 B37

74917-X DE
J5 1095-184 X40
US 4010-072 Y10
CA 1060-823 B36
J7 9024-473 B37

75712-X D
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NL 7604-963 Y16
DT 2619-881 Y16
SW 7605-159 Y20
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GB 1521-180 A33
CH -607-891 B05
CA 1061-168 B37

77595-X DJ
BE -842-215 X42
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FR 2312-456 Y11
GB 1524-581 A37
CH -611-251 B23
US 4166-037 B37

77605-X AD
BE -842-271 X42
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CH -589-012 Y29
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CS 7603-538 A41
GB 1552-353 B37

78451-X DE
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J7 9023-749 B37

79635-X CD
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SW 7603-856 X47
DK 7601-499 X52
FR 2306-415 Y05
CH -588-052 Y27
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GB 1502-526 A09
CA 1061-105 B37

80578-X BD
NL 7603-419 X43
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J5 1123-819 X50
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NL 7703-007 Y42
DS 2613-645 B37

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SF 7803-502 B35+
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SW 7900-728 B37

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FR 2410-870 B37+

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NL 7811-763 B25+
GB 2009-786 B25+
DT 2851-928 B26+
DK 7805-428 B29+
SW 7812-283 B29+
SF 7803-663 B35+
J5 4095-789 B36+
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DT 2900-120 B28+
NL 7900-007 B29+
GB 2013-179 B32+
DK 7805-074 B33+
SW 7900-027 B34+
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GB 2015-549 B37

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66 40315V A96B02D16
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• 454 67347B D13
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CENTRAL PATENTS INDEX

CLASSIFIED ALERTING BULLETIN

Section D:

FOOD
DETERGENTS

Food [illegible]
Information [illegible]
4 [illegible]
C.F.T.R.I. [illegible]

WEEK B38
7 NOVEMBER 79
68119B - 69903B

ABSTRACTS

INDEXES

- **II - PATENTEE**
- **V - BASIC NUMBER**
- **VII - PATENT NUMBER**

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	11 SEP - 16 SEP 79	874,749 - 874,847
-Non Delayed	3 SEP 79	875,974 - 876,118
CANADA	4 SEP 79	1,061,501 - 1,061,950
SWITZERLAND	15 AUG + 31 AUG 79	608,162 - 609,199 612,555 - 613,079
DENMARK	27 AUG 79	7,800,462 - 7,900,515
W. GERMANY		
-DAS	13 SEP 79	1,574,421 - 2,853,759
-OLS	13 SEP 79	2,748,114 - 2,909,869
EUROPE	19 SEP 79	3,948 - 4,254
FRANCE*	6 JUL 79 (BOPI 10 AUG 79)	2,410,943 - 2,411,545
UNITED KINGDOM	19 SEP 79	1,552,591 - 1,553,190 2,015,851 - 2,016,250
ITALY	10 MAY 79	1,031,501 - 1,032,000
JAPAN		
-Unexamined	—	47,024,980 - 53,046,291
	8 AUG - 14 AUG 79	54,100,301 - 54,103,500
-Examined	23 AUG - 29 AUG 79	79,024,681 - 79,025,680
NETHERLANDS	3 SEP - 9 SEP 79	7,802,226 - 7,901,717
NORWAY	27 AUG 79	7,800,280 - 7,900,350
SOVIET UNION	—	637,369 - 638,815
SWEDEN	3 SEP 79	7,713,280 - 7,905,924
UNITED STATES		
-Reissues	11 SEP 79	Re30,092 - Re30,095
-Patents	11 SEP 79	4,167,042 - 4,167,791
SOUTH AFRICA	29 AUG 79	7,703,099 - 7,807,023

*Printed patents actually published early - mid September, 1979

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

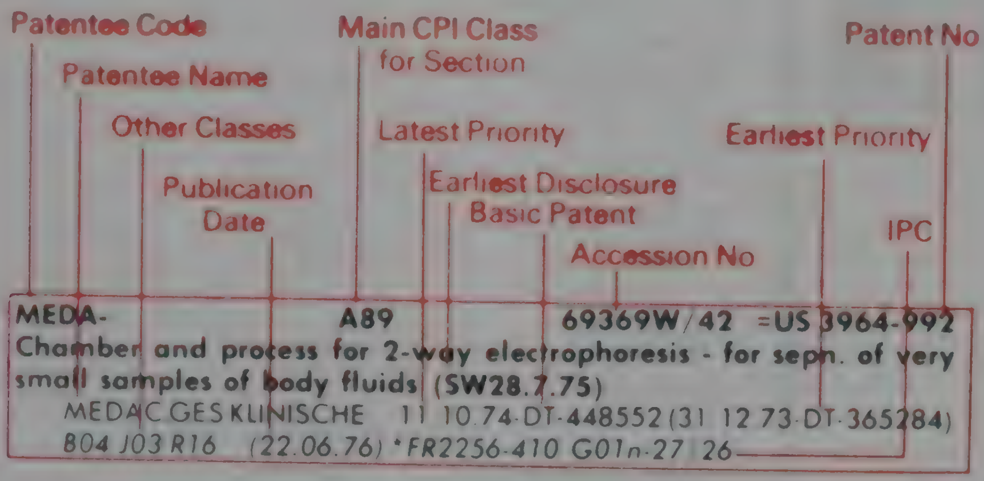
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Earliest Priority
IPC
Patent No

MEDA- A89 69369W/42 =US 3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11 10.74-DT-448552 (31 12 73-DT-365284)
*804 J03 R16 (22.06.76) *FR2256-410 G01n-27 26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

OTT/ D11 64859V/37 =DS 2310-104
ough dividing machine - with slotted slider for outlet of stationary ough chamber
ROTTNER H 01.03.73-DT-310104
*(13.09.79) *DT2310-104 A21c-05*

dividing machine for pastes of high viscosity, specially or dough in bakeries, consists of a funnel with two dough eed rollers at the sides of the bottom outlet. The paste hamber below it acts as vertical guide for an axially movble hollow dividing piston and is bounded by an upper and lower, separately controlled horizontal shutter.

The dividing piston has one or several vertical partitions nd the motions of both shutters and of the piston are coordnated according to a programme. This permits the divison of more than one lump of dough by one machine and one ividing operation so that additional machines and space re saved. 1.3.73 as 310104 (5pp39)

CASE/ D11 54345Y/31 =DS 2701-444
Fully automatic dough portion weighing machine - adjusts portion to correct weight without blockage exerting pressure on dough
CASELI M 14.01.76-CH-000676
*R13 (13.09.79) *DT2701-444 A21c-05 G01g-17/04*

A fully automatic bread dough weighing machine includes a scale arm for the dough which actuates a feeder impeller if the nominal wt. has not been reached. This impeller throws small particles of dough against the dough heap until the scale arm cuts it out by a micro-switch.

The radial feeders of the impeller have a downward inclination and are slightlyconical from the central inlets to the peripheral outlets. The outlet openings lie below the horizontal centre plane of the inlet openings.

This achieves a gentle extrusion of the extra dough quantities and eliminates the risk of clogging. 14.1.77 as 701444 (10pp39)

TAMM/ ★ D11 68453B/38 ★EP ---4-093
Plaited pastry prodn. machine - with contra-rotating funnels and offset discharge nozzles
TAMMINEN T T T 10.03.78-SF-000769
(19.09.79) A21c-03/08 B29c-17
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

A machine for the prodn. of white bread pastry, plaited to tresses, includes one or two guide funnels which revolve around a vertical axis. They have an outlet nozzle which is offset to one side and receive the dough from an extrusion press through a sequence of belt conveyors.

This is a simple mechanism which is easy to clean. The prod. is of good quality and the parameters of the tresses can be altered within wide limits.
12.3.79 as 100740 (15pp39).
(G) ISR: GB-864185; DT2210845; DS-452211.

COSM/ D11 39915Y/23 =GB 1552-618
Bakery proving cabinet for controlled fermentation of dough - circulates heat transfer air around carriage loaded with dough pieces
COSMAO N E A 13.02.76-FR-003957
*(19.09.79) *BE-851-108 +A21c-09*

A fermentation cupboard gas an outer casing closable by doors in which an inner casing is located spaced from the walls of the outer casing, the walls of the inner casing forming heat exchanger panels, a carriage supportable in the inner casing for pieces of dough, and a mechanism to deliver cooled or heated air to between the space at the rear between the casings and which is then circulated about the inner casing.

Pref. at the front of the side passages between the casing deflectors are provided to deflect the air across the front of the inner casing. The side passages are pref. formed by a stack of horizontal channels.

The dough is treated without contacting the air. 2.2.77 as 004364 (4pp1376)

WERN D11 71038A/40 =GB 1553-172
Dough mixing and kneading machine - with three axial paddles revolving in different circular paths
WERNER & PFLEIDERER 26.03.77-DT-713450
*(19.09.79) *DT2713-450 B01f-07*

A dough mixing and kneading appts. is formed by a cylindrical container into which and from which dough can be introduced through a radial recess, $\geqslant 3$ blades being mounted on a shaft for rotations of different radial extent about the container axis. The outermost blade is adjacent the cylinder wall and the recess has a cover member on its base with an inlet for the dough.

The path distance of all the blades is pref. at least half the container radius. The outermost or all the blades are pref. wedge-shaped. Each blade is pref. convexly curved in the direction opposite to its travel.

The appts. is self-cleaning and can be completely emptied. 2.2.78 as 004185 (5pp1376)

HENK ★ D11 68613B/38 ★GB 2016-045
Prodn. of yeast active in acid doughs - by culturing in presence of a short chain aliphatic carboxylic acid
HENKEL KG AUF AKTIEN 11.03.78-DT-810601
(19.09.79) C12c-11/16

Pressed yeast or dried bakers yeast having improved activity or leavening power in acid media is obtd. by addition of 0.1-10 g of a short chain aliphatic carboxylic acid per litre of culture broth in the final propagation stage.

The yeast has improved leavening power in the presence of propionates, or Ca acetate and acetic acid, which normally have an inhibitory effect on pressed or dried yeast prepd. by normal methods.

The acid added is pref. propionic acid. The yeast cream is dewatered using a nonionic dewatering agent, esp. 0.1-10 wt.% of glycerol and/or urea. The yeast is worked up in the usual manner. 8.3.79 as 008181 (6pp955)

TOMA/ D11 30501A/17 =US 4167-068
Spaghetti drying conveyor - prevents sticking by vibratory motion superimposed to linear belt motion
TOMADINI G 18.10.76-IT-083463
*+Q76 (11.09.79) *DT2745-635 +F26b-09*

A system transporting spaghetti laterally during drying comprises a perforated conveyor loosely suspended between end wheels to form transverse depressions to hold the spaghetti, a drive coupled to one wheel and a vibrator so that the spaghetti is aligned in parallel and regularly moved relative to the conveyor and to itself.

The drive may include a ratchet mechanism for rotating a wheel jerkily, or one wheel may rotate eccentrically, or a rotating eccentric may be coupled to a frame carrying the sheels. The conveyor may be a mesh belt or a series of metallic blinds defining shallow pockets.
4.10.77 as 839305 (5pp1358).

EKCO ★ D11 69712B/38 ★US 4167-233
Commercial baking pan - made from single metal sheet blank with integral elliptical section corner posts
EKCO PROD CO 27.06.77-US-810119
Q32 (11.09.79) B65d-07/42 B65d-21/02

A pan is formed from a single metal sheet and has a rectangular bottom and sides of equal uniform thickness. Adjacent sides are joined by an integral corner post lying within the point of intersection of the sides outer surface planes.

Each post has smooth inner and outer curved surfaces and an elliptical cross-section. Inner and outer surface ends form definable junctions with the sides, and post thickness at the minor axis is more than twice side thickness. The arrangement provides corner strength and easy cleaning. 27.6.77 as 810119 (9pp1358).

WERN D11 71038A/40 =US 4167-340
Dough mixing and kneading machine - with three axial paddles revolving in different circular paths
WERNER & PFLEIDERER 26.03.77-DT-713450
*(11.09.79) *DT2713-450 +B01f-07/08*

A dough mixer and kneader comprises a horizontal cylindrical container closed by end walls and with three blades driven by shafts through the walls to rotate along spaced circular paths with one close to the container wall to act as a scraper.

A longitudinal top loading opening can be used for discharge by rotating the container and is closed by a fixed cover when at the top. A frame extends outwardly of the container and is secured to it along the opening edge to form a cover seal. Container and frame have aligned radially inclined edges at the opening to form a pocket-shaped space. 15.3.78 as 886780 (5pp1358).

D12: MEAT; FISH PROCESSING

REIF/ D12 55248T/35 =DS 2106-954
Dicing machine - with pressure feed drive for meat bacon sausage etc
REIFENHAUSER T (REI /) 13.02.71-DT-106954
*P41 (13.09.79) *DT2106-954 B02c-18/26*

A cutter to cut meat, sausage or other food into cubes consists of a reciprocating pair of cutter grates and blades, facing a cylinder with a piston actuated by a power cylinder. The constant-speed drive for the cutters also drives a piston pump to feed a hydraulic fluid to the power cylinder. A bypass flow control valve is inserted in the delivery circuit of the pump to control the length of the cut cubes.

The arrangement keeps the length of the cubes constant throughout the entire piston stroke and permits a stepless adjustment of the cube size without rapid or shock-like movements. 13.2.71 as 106954 (4pp39)

KOHL/ D12 76018X/41 =DS 2512-973
Dietetic meat patties - contg vegetable mixtures instead of fat
KOHLE G 24.03.75-DT-512973
*(13.09.79) *DT2512-973 A23l-01/34*

A low-calorie meat paste is made from 8 pts. veal (pure lean meat), 8 pts. beef (pure lean meat) and 6 pts. vegetable mixt. of cauliflower, turnip cabbage, carrot, celery, and soya germ. This mixt. is cut up with 10 pts. ice, to the mixt. per kg. mass is added 20 g nitrite pickling salts and 4 g meat spices and the prod. finished at 72 °C.

The paste is solid for cutting and is in the form of a sausage. The paste is a low calorie dietectic food. 24.3.75 as 512973 (2pp068)

FARH ★ D12 68252B/38 ★DT 2809-585
Support sleeve for corrugated sausage skin - made of heat shrinkable polyethylene foil with radial holes and reinforced flange ends
HOECHST AG 06.03.78-DT-809585
A97 (13.09.79) A22c-13

A support sleeve, made of a flexible thermoplastic foil, for corrugated hoses, e.g. for use as sausage skin, ready for application to the filling tube of a sausage machine, is capable of extension and shrinkage. It has a number of radial holes for access to a watering fluid and has reinforced flange ends.

The pref. material for the support sleeve is polyethylene foil which is capable of latent heat shrinkage and is shrunk to the hollow hose when it is located over a supporting mandrel.

This prevents the tendency of watered corrugated sausage skin from extending and of causing difficulties in applying to the filler tube or lead to damage. 6.3.78 as 809585 (19pp39)

FEUR/ ★ D12 68253B/38 ★DT 2809-609
Meat mincing machine - with gaps in drive shaft bearing bush flange for hard particle segregation
FEURIG W 06 03 78 DT 809609
P41 (13 09 79) B02c-18 30

A meat mincing machine has in the centre of the perforated disc a bearing bush with a flange on which the hub of the cutter set rests. Recesses in the flange give access to an inner annulus. The latter communicates with the channels produced by flats on the drive shaft in the bearing bush.

Sinews, fibres, gristle, bones and other hard particles can thus be sepd from the minced meat without having to stop the machine. The size of the hard particles can be readily adjusted. 6.3.78 as 809609 (15pp39)

FARH D12 66505B/37 =EP ---4-013
Sausage meat filling device - with calibrating tube and disc maintaining constant filling dia. by braking action
HOECHST AG (KALL) 04.03.78-DT-809385
*(19.09.79) *DT2809-385 A22c-11/02*
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Sausage case filler comprises a calibrator which expands the crimped case from inside for filling the mass from the machine fill tube. The calibrator comprises a hollow tube (2) round the exterior of the fill tube to contact the inside of the sausage case (4). The fill tube end of the calibrator is expanded (8) from flexible material, and one straightened part of the case (4b) is drawn over this part (8). The second part (3) of the calibrator is a ring outside the fill tube in contact with the expahded end (8) to control its dia. by altering the pressure exerted on it. A cylindrical wall (13) adjoining the flange (12) on the expanded part forms an opening cone.

Sausage case filling is effected by machine for uniform size and density, at high output. The calibrator ensures controlled expansion of the sausage case during filling, starting from crimped or gathered condition right through to the tying off stage. The tube ensures positive guidance and progressive expansion and the perforations admit the water needed at the filling stage.
26.02.79 as 100565 (20pp26).
(G) ISR: ——

CANI ★ D12 68477B/38 ★EP ---4-161
Shirred stick of tubular casing material for flowable material - has non-shirred casing portion forming leakproof connection with material extruder
CANADIAN INDUSTRIES LTD 14.03.78-CA-298880
A97 (D13) (19.09.79) A22c-11/02 A22c-13
D/S: E(BE, DT, FR, GB, SW).

The tubular bore of a shirred stick of tubular film casing material is lined with an integral unshirred extended end-length portion of the casing. The leading end of the lining unshirred portion is adapted for leakproof connection to a filling appts. The shirred casing is adapted to be drawn from the stick over the connection point and become progressively deshirred.

The casing material is pref. synthetic plastics film or a film of natural proteinaceous material.

The casing material is used for encasing foodstuffs and other flowable or compressible material, e.g. sausage meat, processed cheese, explosives, caulking compounds.

There is no need for spring activated or pressure seals to prevent product leakage or air ingress.

.79 as 300310 (12pp1044)
ISR: FR2336316; US3545038; FR2173429;
1329399.

LS D12 88724X/47 =GB 1552-680

dn. of protein filaments from cooked meats - by heat treating a mpable slurry of the meat

RALSTON PURINA CO 26.07.75-US-599792

*F01 (19.09.79) *US3991-221 A23l-01/31*

otein fibres are produced from a cooked meat, in which onfined flowing stream of a fluid slurry of the cooked at is heated to $\geq$280°F under a pressure and pH suff- ent to form fibres.

The cooked meat has a solid content of $\geq$10 wt.% and a tio of viscosity (measured at a solids level of 15 wt.%) an uncooked meat slurry of identical compsn. to vis- sity w.r.t. the slurry of $\geq$ 2:1. Pref. the pH is 3-6, d the pressure is 50-5000 psig.

The cooked meat prepd. is esp. derived from chicken, rk, tuna fish, beef or turkey. 12.7.76 as 028912 (10pp)

ARR/ ★ D12 68562B/38 ★GB 1552-822

illing of poultry carcasses - by moving in serpentine path in untercurrent stream of cold air

GARRARD B 05.05.76-GB-018430

Q76 (19.09.79) F26b-13

od items esp. chicken carcasses are chilled or frozen hile carried through a treatment chamber. A conveyor rries the carcasses in a serpentine path while cold air blown through the chamber counter-current to the ad- nce of the food items. The food is thus progressively oled and pref. the chamber includes a second stream of ld air at the upstream end of the appts. to cool the food rther. Pref. the food is cooled from 100°F to 30°F.

The method dries and chills meat prods. or vegetables. 5.76 (5pp295)

PP- D12 06060A/03 =GB 1553-087

od esp. bacon slicing and weighing - with adjustment of slice ickness to form pack of predetermined weight

SIPPICAN CORP (AMTR-) 12.07.76-US-704331

*P62 +R13 R26 (19.09.79) *US4065-911 +G01g-13/24 G05b-15/02*

product slicing and weighing system, partic. for bacon, omprises a slicing machine feeding a weigher, and a ontrol to interrupt the feed when the weigher records a et weight less than a target weight and when a group of lices of the target weight is produced.

The number of slices in the initial amt. is counted and he slices are cut at reduced speed between the initial and arget weights. Calculators determine the difference be- ween initial and target weights and the number of slices required and their thickness to control make-up to target weight. 29.10.76 as 045158 (20pp1358)

RALS D12 01478V/01 #J7 9025-098

ibrous meat additive - from a heated and extruded suspension of roteins and carbohydrates

RALSTON PURINA CO 02.07.73-BE-801808 (18.06.73-JA-067866)

*(25.08.79) *BE-801-808 A23j-03*

Soft stretched protein filaments for synthetic meat are continuously prepd. by (a) forming a pumpable water suspension of protein and carbohydrate, having solids $>$20 wt.% and protein content $>$40% dry wt. (b) passing the suspension through a heating zone to form the filaments through an orifice, (c) sepg. and collecting the filaments.

Dry wt. ratio of carbohydrate (cellulose) to protein (soya) is 0.3-1.5. The suspension at pH 4.5 is heated to 116-157° C at 3.5-350 kg/cm^2. The prod. is very tender and of neutral taste which is easy to flavour. 18.6.73 as 067866 A23j-3/00 (25.8.79) RALSTON PURINA CO. (10pp) (J5 0019957)

KURE D12 46005U/33 =J7 9025-099

Packaging films for meat - with inner vinylidene chloride-vinyl chloride terpolymer anouter vinylidene chloride-vinyl

KUREHA KAGAKU KOGYO 24.01.72-JA-008278

*A14 P73 Q34 (A92) (25.08.79) *NL7300-941 A22c-13*

A tubular packaging film, with good adhesion to kneaded meat prods., consists of (A) in inner film of a suspension polymerised terpolymer from vinylidene chloride (I), vinyl chloride (II) and a comonomer (III) which is an unsatd. organic acid (deriv.) contg. $\nless$1 acid or amide radical, and (B) an outer film of a suspension-polymerised copolymer of (I) and (II).

The film adheres well to meat prods. produced from domestic animals, of high fat content. The film does not become distorted or form wrinkles on the surface of the meat prod. 24.1.72 as 008278 A22c-13/00 (25.8.79) KUREHA KAGAKU KOGYO KK (4pp) (J4 8077077)

VOLK- D12 40060X/22 =SU -638-319

Opening gill covers of fish for beheading - oblique rails guide accurately irrespective of fish size

VEB VOLKSWERFT STRA (KLIM/) 21.03.75-DL-184926

*(28.12.78) *DL-118-370 A22c-25/14*

For the opening of the gill covers of fish transported on their sides, belly forward, obliquely to the line of motion of the conveyor bringing them to the decapitating station, the fish, held down on a press. lever is forced past a guide with a ramp which presses the head backwards against the neck, so that two guide rails of a centralising device engage under the opened gill covers, and lead the fish accurately to the topping knives.

Method gives improved alignment of the fish and consequent reduction of the loss of flesh on decapitation. Schmidt. U., Klint, F., Bul.47/25.12.78.19.3.76.as 335101(3pp).

FARE= ★ D12 69465B/38 ★SU -638-320

Separator for shell fragments from crayfish flesh - contains forced water supply nozzle with elastic conical funnel mounted under refractory discs in guiding cone

FAR EAST DALTEKHRYB 10.05.76-SU-359072

P41 (28.12.78) A22c-29/02 B03b-05/34

Complete separation of shell fragments from crayfish flesh(or of other admixtures from food products), using separator claimed in Parent Cert. No. 537664, is ensured by the following modification of the design. Under the refractory discs(syphon) with the guiding cone in the lower section of the conical chamber of the separator is mounted a pipeline equipped with elastic conical funnel nozzle and connected to sea water supplied under pressure of 10-15 kg/cm^2. The conical chamber of the separator contains on its inner surface a helical guiding rim, between whose coils are openings of tangential inlet nozzles for forced supply of sea water which revolves in the chamber with optimal velocity.

Zalugovskii, I. Ya., Shablin, I. L., Bul.47/25.12.78. 10.5.76.as359072(4pp135).

ROGO/ D12 60881A/34 =US 4167-590

Protein gel from fish and crustacea - is prepd. by freezing and thawing aq. suspension of defined concn.

ROGOZHIN S V (HETO) 23.11.76-SU-423838

*(11.09.79) *FR2371-153 A23j-01/04*

Protein jellies are produced from myofibrillar protein of fishes and crustaceans by freezing an aq. suspension contg 5-50wt.% of the protein, then defrosting the frozen suspension formed to obtain a shape-retaining jelly of the protein and water.

Pref. the aq. suspension of the myofibrillar protein includes animal or vegetable proteins in amt. $\leq$ 50wt.%, lipids in amt. $\leq$ 50wt.%, carbohydrates in amt. $\leq$ 50wt.% or sodium chloride in amt. $\leq$ 20wt.% w.r.t. the myofibrillar protein.

The jelly formed is resistant to boiling and roasting, and easy to separate from the vessel in which it is formed. 23.11.77 as 854236 (2pp931).

COLP- ★ D12 B/38 ★ZA 7804-217

Sausage skin - comprising synthetic plastics web with alternating printed and unprinted areas

COLPAK PTY LTD 25.07.78-ZA-004217

A97 (02.07.79) A22c A23b

A tubular sausage skin is formed from a web of synthetic plastics material which has printed areas alternating with unprinted areas over each of the longitudinally extending marginal strips, one longitudinally extending edge portion of the web overlapping the other longitudinally extending edge portion of the web. The overlapping edge portions are secured together along a longitudinally extending weld line which is provided where the marginal strips are superimposed one on the other. The arrangement is such that the weld line crosses alternate zones of printed and unprinted synthetic plastics material. 25. 7. 78 as 004217 (12pp)

D13: OTHER FOODSTUFFS

UNIL ★ D13 68123B/38 ★BE -874-778

Spray stencilling design on food prod. esp. ice cream - with spaced parallel stencils having identical aligned cut/outs to give clean design

UNILEVER NV 13.03.78-GB-009837

P75 (12.09.79) A23g B41m

In the process, the prod. is held with the surface to be sprayed in a vertical plane. The surface is parallel to and slightly spaced from a pair of stencil plates. The plates are in parallel planes and slightly spaced from each other. The plates have identical, aligned stencil cutouts. Corresp. to the design to be formed on the surface. Liq. is sprayed through the stencil cutouts on to the prod. surface.

The nearer stencil plate is pref. spaced from the prod. surface by 2 - 6 mm. The stencil plates are themselves spaced apart by a distance pref. of 2 - 8 mm. The thickness of each stencil plate is pref. $<$ 1.5 mm. As the prod. is sprayed, the direction of spray current is pref. varies continually.

Used in spray decoration of a prod. partic. a food prod. and esp. the surface of an ice-cream on a stick. Rapid repetitive stencilling with excellent definition, i.e. the design is applied with clean, unblurred edges and without excess liq. splashing on to the prod. 12.3.79 as 874778 (7pp448)

JAMO- ★ D13 68141B/38 ★BE -874-833

Treating and preserving farm animal bones for pet foods - by brining, vacuum packing, and sterilising

JAMONES GERONA SA 01.12.78-ES-475646

C03 (14.09.79) A23b

The bones from the extremities of pigs, cattle and sheep are treated in an aq. brine comprising 2-5% NaCl, nitrifying salts, buffer salts, sugars and protealytic enzymes. The bones are immersed in the bath at $>$10°C for 18-24 hrs. The treated bones are then packed under vacuum in receivers having flexible walls made of triple layers (plastic/aluminium/plastic). The package is thermosealed and heated at 106-116 °C and at 1.8 kg/cm^2 pressure in an autoclave for 20 mins to sterilise the material.

The product is used in food for cats, dogs and domestic carnivarous animals. The process enables the use of a waste material and the treatment increases the digestibility and hence the nutritional value. 14.3.79 as 874833 (4pp597)

AQUA/ ★ D13 68166B/38 ★BE -876-080

Packaging process for lollipop on stick - uses part of wrapper to form stick and incorporates pull wire to facilitate unwrapping

AQUARIUS C 07.05.79-BE-876080

Q31 (03.09.79) A23g B65b

A lollipop on a stick is produced by forming the lollipop head in the conventional manner, wrapping the head and then twisting the protruding ends of the wrapper together to form the stick. The stick is formed at a place on the lollipop head where sugar glue has been applied so that, when the head is unwrapped, the stick remains stuck to the head.

The stick is pref. rendered stable by applying a glue to that part of the wrapping paper which is to be twisted together or by using a paper which is self adhesive on the application of heat. The packing material is pref based on cellulose and is cut from a rolled strip comprising a transparent central portion in which a coloured thread is embedded, the latter facilitating the unwrapping of the lollipop for consumption. No stick inserting device is required. 7.5.79 as 876080 (12pp1370)

CELA ★ D13 681808/38 ★CA 1061-632

Preservative compsn. contg. propionic acid - formaldehyde, methanol and water, for treating grain, forage and cellulosics

CELANESE CORP 06.03.75-US-555927

E17 (04.09.79) A23k-03/02

The compsn. comprises $\geq$ 50 wt % propionic acid (I), HCHO at 0.25-1 mole per mole (I), water and methanol. The water methanol ratio is $>$ 1 and provides a soln. which remains clear when aged at -18°C for 1 year.

Methanol may be replaced by ethanol, propanol, butanol or lower glycols, the mole ratio water, alcohol being $>$ 1 but $<$ 5, and the mole ratio HCHO: water plus alcohol is $\geq$ 0.4. Such compsns. may contain another 1-4C alkanoic acid as well as (I).

Used for preserving grain (esp. of high moisture content), forage and cellulosic materials, pref. by application at 0.5-2 wt %. It has high storage stability at low temp. without phase sepn. and good flow properties between -20 and 40°C. 20.1.76 as 243811 (7pp1251)

STEI D13 77684V/45 =DS 2316-038

Cheese mould palette stacking system - for handling very high stacks

STEINECKER A MASCH GMBH (STEI-) 30.03.73-DT-316038

*P13 (13.09.79) *DT2316-038 A01j-25/13*

A plant for the mfr. of soft cheese includes a device for the transfer of a stack of stackable mould pallets from a stack lifting platform to a carriage, suspended from a monorail above it. The stack of pallets on the lifting platform is first aligned so that each pallet fits into the cavity of the one below it, by a swivelling frame with guide rails which is turned by a stepper motor and urges the pallets against a vertical stop rail.

The now aligned stack is raised to engage the alignment bars of the suspended carriage in the through holes of the pallets, until detents hold the stack in position. The result is a much more gentle movement of the pallets, free from vibrations. 30.3.73 as 316038 (5pp39)

NEST D13 23361V/13 =DS 2345-798

Soluble proteins from skim milk - by acidifying skim milk protein isolate, and removing the resulting deposits

SOC PROD NESTLE SA 11.09.72-CH-013272

*(13.09.79) *DT2345-798 A23l-02/26*

Aq. solns. of soluble whey protein fractions are subjected to ultrafiltration and/or molecular sieve filtration, followed by adjustment of pH to 4.4-5.0; and ppte. is then filtered off. The prods. are used to produce coated fat particle for use as turbidity agents, esp. in drinks, and are not pptd. by the presence of acid in such drinks. 11.9.73 as 345798 (4pp047)

MILU- D13 09430X/06 =DS 2433-65C

Ready-to-eat compressed food concentrates - obtd. by moulding the granulated compact made from a given starting mixt.

MILUPA AG 12.07.74-DT-433650

*(13.09.79) *DT2433-650 A23l-01 A23p-01*

A ready to eat compressed food is made by grinding together a mixt. of foodstuffs, compacting the mixt., granulating the compacted mass and then compressing. The mixt. of foodstuffs pref. contains $\leq$ 3% water or is dried to such a water content before compacting. A parting or lubricating agent, e.g. a triglyceride may be present.

The food may be easily packed and transported. 12.7.74 as 433650 (4pp068)

UER- D13 46285X/25 = DS 2457-647
nstant flaked food prepn. - by moistening mixt. of starch-contg. lakes and powdered food and or flavouring mixt.
AUER H MUHLENWERKE 06.12.74-DT-457647
*(13.09.79) *DT2457-647 A23l-01/16*

n instant food in flake form, e.g. babyfood, is prepd. by ixing 25-70 wt.% gelatinised starch, in the form of rum-dried flakes with 75-30 wt.% powdered food or flav- uring, moistening the resultant mixt. with 5-30 wt.% ater, based on the dry wt. and then drying. Pref. the verage particle of the drum-dried flakes is 2-30 mm nd the thickness of the flakes is 0.01-2 mm.

The flakes have good mechanical properties and the ingredients do not separate on storage. 6.12.74 as 457647 4pp068)

MEDI= ★ D13 68219B/38 ★DT 2808-803
eed-concentrate powder polymer coating - to protect against atmospheric moisture, formed by dispersing concentrate in polymer soln. and subsequently removing solvent
MED TECH RES INST (LIVA= ALMI=) 01.03.78-DT-808803
A97 C03 (13.09.79) A23k-01

In the protection of powdery feed concentrates by dispersing them in a solution of a polymer and subsequently removing the solvent, (a) beofre removing the solvent the dispersion is added to a non-polar oil and (b) often removing the solvent the polymer-protected feed concentrate particles are sepd off from the non-polar oil and washed with a readily volatile solvent for the oil.

Use of the non-polar oil imparts a globular form to the particles. The polymer coating protects the feed concentrate against the effects of moisture during storage and processing without inhibiting absorption after feeding to animals. The polymer used is pref. a cellulose deriv (e.g. acetylcellulose, acetylpphthalylcellulose, acetylpropionylcellulose or acetylbutyrylcellulose), pref. used in an amt of 3-15% of the total dry wt of the prod. The solvent for the polymer is pref. acetone or dioxan. 1.3.78 as 808803 (21pp280)

MERE ★ D13 68248B/38 ★DT 2809-536
Instant cocoa beverage powder prepn. - by mixing spray-dried sugar or sugar-substitute, esp. sorbitol, with cocoa powder
MERCK PATENT GMBH 06.03.78-DT-809536
(13.09.79) A23l-02/38

Spray-dried sugar or sugar substitutes are used in the pre-pn. of instant cocoa powders consisting of sugar or sugar substitutes, cocoa powder and opt. standard additives.

The powders quickly dissolve in water or milk. Dissolution time is 3-8 times shorter than when using crystallised sugar or sugar substitutes. The powders retain all sensitive aroma materials of cocoa, are free-flowing, uniformly coloured and resist unmixing.

All standard sugars may be used, partic. saccharose. Sugar substitutes include mannitol, xylitol and pref. sorbitol. Particle size is esp. 50-1500 (100-600) μ. Cocoa powder size is < 100 (< 25) μ. Dusting can be prevented. 6.3.78 as 809536 (11pp200)

NEST ★ D13 68344B/38 ★DT 2905-605
Granule coating machine for ice cream - with endless chain taking carrier plates to all application stations
SOC PROD NESTLE SA 10.03.78-FR-007068
Q31 (13.09.79) A23g-03/20 B65b-25

Portions of ice cream are coated with a granular product, e.g. a mixture of ground roasted nuts and almonds, on an endless chain. This moves carrier plates for the portions through the successive stations for sprinkling a base layer, depositing the ice cream, enclosing the portion in a layer of granules and discharging it from the dishes.

This saves all manual labour for the entire mfg. sequence. 14.2.79 as 905605 (13pp39)

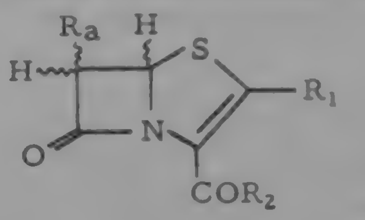
DANO- ★ D13 68372B/38 ★DT 2908-639
Animal feed additive for normalising intestinal microflora - contg. live bacteria encapsulated in non hygroscopic material
DANOCHEMO A/S 08.03.78-GB-009115
B05 C03 (D16) (13.09.79) A23k 01 A61k-35 74 C12k-01 08

New prod for use as an animal feed additive contains live bacteria which favourably influence the microflora of the intestinal tract of animals. The bacteria are encapsulated in a material which has a lower water content in equilibrium with air of high relative humidity, the material being suitable for releasing the bacteria in the digestive tract of the animal. Pref. bacteria are Streptococcus faecium Streptococcus faecalis and Lactobacillus acidophilus. The capsule material is pref. polyethylene glycol, solid fat (including fatty acid monoglyceride), free fatty acid, fatty alcohol (including ethoxylated fatty alcohol) or sugar.

Used as curative or prophylactic treatment of animals by combatting pathogenic intestinal bacterial or maintaining the normal intestinal microflora. Encapsulation of the bacterial affords protection against the conditions prevailing during pelleting, etc. of animal feed. 6.3.79 as 908639 (15pp380)

CIBA D13 60256B/33 = EP ---3-960
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - useful as broad spectrum antibacterials and beta lactamase inhibitors
CIBA GEIGY AG 02.02.78-CH-001140
*B02 C02 (D22) (19.09.79) *GB2013-674 A61k-31/43 C07d-205/08 C07d-277 C07d-417/12 C07d-499 C07f-09/65*
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

(A) Penems of formula (I) and their salts are new:



(I)

(R_a is an organic gp. bonded to the ring C through a C atom, OH opt. etherified or esterified, or SH or halogen;
R_1 is H, an organic gp. bonded to the ring C through a C atom, or etherified SH;
R_2 is OH; or COR_2 is protected carboxyl, in which case R_2 is R_2^A).
(B) Intermediates of formulae (IV), (V), (VI), (II), (VIII), (IX), (X), (Xa), (XI), (XII), (XIII), (XIV), (XV) and (IIIa) (see 'Preparation' and 'Starting Materials') are also new.

(I) are broad-spectrum antibacterials and they are β-lactamase inhibitors having a synergistic effect in combination with other β-lactam antibiotics. (I) may be used as therapeutic agents, fodder additives, for preserving foodstuffs and as disinfectants.

30.1.79 as 100258 (179pp1248).
(G) ISR: DT2205123; DT2819655; US4123539.

FARH ★ D13 68433B/38 ★EP ---4-049
Potassium sorbate granulation - by spraying aq. potassium sorbate soln. on potassium sorbate particle bed fluidised with hot air
HOECHST AG 11.03.78-DT-810702
E12 (19.09.79) C07c-51/42 C07c-57/10
D/S: E(BE, DT, FR, GB, IT, NL)

Continuous K sorbate granulate prepn. comprises spraying an aq. K sorbate soln. in or on a K sorbate particle bed whirled up by hot air. K sorbate soln. quantity/time unit is adjusted so that the turbulent bed temp. is 40-80 esp. 55-70°C and the relative humidity of air leaving the turbulent bed is $\leq$ 20 wt. %, calculated w.r.t. 60°C.

K sorbate is used as a food preservative.

Granulate discolouration by decomposition is prevented Free-flowing dust-free, abrasion-resistant granulates are obtd. having dia. 0.5-1.5 mm.
5.3.78 as 100640 (16pp200)
(G) ISR: DT2231445; DS1198349.

TEIJ ★ D13 68443B/38 ★EP ---4-073
Oxygen scavenging and heat generating compsn. - contg. metallic iron and oxidn. promoter
TEIJIN KK 07.08.78-JA-095363 (13.03.78-JA-027601)
A60 E36 G04 Q34 (D22) (19.09.79) B65d-81/24 C09k-03 C10l-05/40
D/S: E(DT, FR, GB).

Intermediate Priorities: 16.3.78; 7.6.78; 3.8.78-JA-029217; 067747; 094092.

(A) An O_2 scavenger compsn. consists of (a) metallic Fe, (b) an oxidn. promoter(s) from Na silicate hydrates, silicic acid, Na alum and Na borate hydrates and, opt., (c) an alkali metal cpd. as oxidn. promoter aid and/or (d) a water insol. or sparingly soluble inert filler.

(B) A heat generating compsn. having an initial rate of O_2 scavenging of at least 5 (pref. $\geqslant$10) ml./g compsn. in air at 20°C. for 1 hr. after start of O_2 reaction is as above including (c), ((d) opt.), (b) being Na silicate hydrate and/or silicic acid.

(C) A deoxygenating structure comprises the scavenger compsn. covered by a film having an O_2 permeability at least 0.005 (0.01-20) ml/cm^2.min. atmos. (O_2 partial press.). The heat generating structure pref. also includes a film having an O_2 permeability of 0.4-10 ml/cm^2.min. atmos.

Used for antioxidn. of oils and fats e.g. in peanuts, chocolates; prevention of degradation of flavour, e.g. in breadcrumbs, dried and smoked foods; antiseptic, mothproofing, antibacterial and mouldproofing applications e.g. for fresh food, books; preventing degradation of organic material e.g. pharmaceuticals, clothes, film, plastics; rustproofing of metals; detection of O_2.

Use as a heater includes low temp. for warming the body or high temp. for heating food and drinks, also heat diffusion of perfumes, insecticides etc.

The compsn. is easily used, inexpensive, reacts smoothly and without generating corrosive gases.
8.3.79. as 100683 (50pp091).
(E) ISR: —

MAYR ★ D13 68448B/38 ★EP ---4-085

Baked ice cream cone with conforming sanitary jacket - dosed with water vapour or a vaporised mixt. and selectively removable without leaving jacket remnants

MARYLAND CUP CORP 30.05.78-US-910886 (10.03.78-US-885278)
Q31 Q34 (19.09.79) A21c-15 A23g-09 B65b-11 B65d-57

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Ice cream cones are produced with conformally shaped sanitary jackets adhered to the cones by applying a vaporized mixture of about 80 to 90 vol. % propylene glycol and about 10 to 20 vol. % water or water vapour alone to the interior of each jacket. A respective cone is inserted in each jacket while the latter is still moist from the vapour injection. The jacket is made of paper.

The jacket is sufficiently fixed to the cone to preclude accidental removal during packing, shipping and dispensing, and yet is readily removable by a customer after purchase.
9.3.79 as 100720 (15pp1044).
(E) ISR: US2303420; US2303352.

LAIT- ★ D13 68506B/38 ★EP ---4-231

Acidulation of milk using cationic resin followed by acid - used for prepn. of casein and milk serum

LAITERIES H TRIBALL 02.03.78-FR-006006
A97 (19.09.79) A23c-09/14 A23c-21 A23j-01/20 C07g-07

D/S: E(BE, CH, DT, GB, IT, NL, SW).

Two-stage acidulation of milk comprises first treating with a cationic resin to give a pH not less than that at which flocculation occurs, pref. to pH $\not<$ 4.7, followed by addn. of acid.

Also claimed is milk serum contg. $<$ 10, pref. $<$8 wt. % mineral material with an ash alkalinity of $<$750, pref.—$<$500 (as mg. Na_2CO_3 per g of ash). Pref. the milk serum comprises $<$ 3.5 wt.% Cl^- (as NaCl), $<$ 5 wt.% (Na + K + Ca), Dornic acidity $<$40°, and $<$300 mg ash alkalinity (as Na_2CO_3/g).

Prepn. of casein from skim milk comprises stirring with H-form cationic resin to give milk of pH$>$ 4.7 but below initial pH and metalion satd. resin. The milk is then sepd., coagulated to give curds and whey, and the whey is sepd. and used to regenerate the resin. Coagulation is pref. effected by addn. of conc. whey.

Appts. for acidulation and casein prodn. are also claimed.

Use of resin avoids addn. of undesired anions and avoids degradation/denaturation of valuable constituents. Mineral content of obtd. milk serum is less than that of conventionally obtd. material. Amt. of acid needed for acidulation is reduced, thus reducing costs since the resin is recycled.
1.3.79 as 400131 (21pp949).
(F) ISR: —

SAND- ★ D13 68517B/38 ★FR 2410-964

Rodent food and rodenticides in sausage form - contg. a high proportion of water

SANDERS 07.12.77-FR-036821
A97 C03 (10.08.79) A01n-17/14 A23k-01/18

Food products for rodents contain a high proportion of water and are in the form of sausages having a natural or synthetic casing.

The water content is usually 50-80% by weight and the filling may contain a coagulating agent such as a starch. The remainder of the filling is preferably a sterilisable mouse or rat food. The casing may be natural, such as gut, or synthetic such as polyester.

The foods are suitable for laboratory animals and for animals when travelling. If a porton is incorporated, such as coumafene, the products are suitable as rodenticides. By having the food in sausage form, it is not scattered by the rodents and keeps well. The high proportion of water provides, at least partially, the needs of the animals for drinking water. 7.12.77 as 036821 (6pp520).

SERM- ★ D13 68518B/38 ★FR 2410-967

Machine to cut florets from cauliflower stumps - esp. for deep freezing has conveyor and cutters operated by fluid power cylinders

SERMA ENTREPRISE (BRET-) 07.12.77-FR-037754
(10.08.79) A23n-15

Each cauliflower is loaded into a pocket on a horizontal conveyor band which is intermittently advanced by a power cylinder via a free wheel transmission with return spring. The cup is automatically located to position the cauliflower on a vertical axis beneath three cutters symmetrically disposed around the axis. The cutters can descend, moving inwards to meet on the axis, forming the apex of an inverted cone. The apex cuts into the core of the stump, sepg. the florets which fall on to the band. The cutters are displaced by fluid power cylinders.

Machine offers a high output of cleanly detached, undamaged florets. 7.12.77 as 037754 (4pp448).

BRPE ★ D13 68535B/38 ★FR 2411-184

Furfural prepn. and solvent extn. from pentose soln. - obtd. by hydrolysis of plant materials

BP SOC FR PETROLES 09.12.77-FR-037193
(10.08.79) C07d-307/50

Furfural is prepd. by dehydrating, in acid medium, a sugar soln. contg. at least pentoses, obtd. by hydrolysis of lignocellulosic materials. Xylose is converted to furfural which is extd. as it forms a solvent of formula R_1R_2 or R_1-CO-R_2 where R_1 and R_2 are independently: (i) H (but cannot both be H); or (ii) linear or branched alkyl opt. substd. by halogen, nitro, nitrile, amino, thiol, alkoxy, possibly attached to $\geqslant$ 1 heteroatom(s) such as oxygen and substd. by $\geqslant$1 OH gps.; or (iii) aryl or alkylaryl opt. substd. by alkyl, alkoxy, halogen, nitro, nitrile, amino, thiol; the cpd. contains $\geqslant$1 O atom per mol.

This process gives improved yields of furfural. The amt. of solvent, w. r. t. reaction medium, is generally 10:1-1:2, pref. 5:1-3:1. 9.12.77 as 037193 (12pp1319)

MOLK- ★ D13 685508/38 ★FR 2411-539

Composite cheese block for extending shelf life or blue cheese - by sealing it inside casing of processed cheese

MOLKEREI-ZENT SUD 10.12.77-DT-U37795
(10.08.79) A23c-19/02

A composite block of cheese which comprises an outer covering of processed cheese contg. a layer of natural cheese, partic. blue cheese. The processed cheese may contain edible additives, e.g. spices, flavourings and condiments. The portion of natural cheese is pref. entirely enclosed within the outer covering of processed cheese.

The block pref. includes several layers of natural cheese separated by processed cheese. In partic. a cylindrical block pref. contains several coaxial, spaced discs of natural cheese of smaller dia. than the cylinder; an annular sleeve of processed cheese then surrounds the

rcumferential edges of the discs.
The natural cheese, esp. blue cheese, is sealed inside
edible package which protects the natural cheese from
ying out and becoming stale. 8.12.78 as U 34570 (w)(7pp)

PE D13 25640Y/15 =GB 1552-791
spersible solid for milk replacement in animal feed - comprising
rmentation synthesised protein in polysaccharide matrix
BRITISH PETROLEUM LTD 18.06.75-GB-025933
*C03 H04 (D16) (19.09.79) *FR2315-859 A23c-11 A23j-03*
+A23l-01/19

solid water-dispersible material contains a water-sol-
le single cell microbial protein, the finely divided prot-
n, the finely-divided protein being dispersed in a solid
atrix comprising a polysaccharide which can form a gel
th cold water (i.e. water at or near ambient temp. e.g.
-45°C). Esp. the material is in the form of a powder
ving a particle size of $<$ 80μ, the polysaccharide is e.g.
lloidal dextrin, and the protein is e.g. a Candida genus
ast produced by fermentation using a hydrocarbon as the
rbon substrate.

The material is esp. useful in 'milk replacer' compsns.
r hydrated animal feeds. The hydrated feeds have im-
roved sedimentation and dispersion characteristics and
lour in comparison with similar feeds contg. the known
pe of single cell protein. 3.6.76 (6pp990)

ANS- D13 70551A/39 =GB 1552-909
onc. cultures of lactic acid bacterial - for direct vat set cheese
odn., by centrifuging culture medium in presence of
ly:phosphate
HANSENS LAB INC CHR 04.05.77-US-793483
*(D16) (19.09.79) *US4115-199 C12k-03*

onc. bacterial cultures are prepd. for direct rat inocu-
tion of milk batches by culturing harmless lactic acid-
roducing bacteria in an aq. medium including fermenta-
on nutrients to obtain a fermented aq. culture of bacter-
l cells together with the residual nutrients including
asein.

The cells are recovered and concentrated by subjecting
e culture to centrifugation whilst in a medium contg.
.25-5.0 wt.% of dissolved water-soluble food-aceeptable
olyphosphate salt contg. 2-22 phosphate gps. per mole-
ule.

The centrifugation process is sufficient to produce a
ell concentrate of $> 50 \times 10^9$ CFU per gm., the cells
eing used in the prodn. of cheese, yoghourt, buttermilk
nd similar dairy prods. 5.4.78 as 013366 (11pp931)

EST D13 29091A/16 =GB 1553-008
table, aq. soya suspensions prodn. - by grinding the beans,
estroying the anti trypsin factor by heating and milling to specified
article size
SOC PROD NESTLE SA 08.10.76-CH-012793
*(19.09.79) *DT2745-221 A23l-01/20*

An aq. soya suspension is prepd. in a process which com-
rises grinding soya beans in the presence of water at 90-
00°C to form a dispersion of particles of dimension 100-
00 microns.

The dispersion is then heated by the injection of steam
o 120-160°C to destroy the antitrypsin factor. The dis-
persion is then ground to form a suspension contg. corp-
uscles of protein and fat of dimension 2-10 microns. The
corpuscles comprise all the protein and fat derived from
the soya beans and cell wall debris of which the max. dim-
ension is $\leqslant$ 300 microns.

The aq. soya suspension formed is without the bitterness characteristic of soya prods. due to the action of a lipoxidase. 28.9.77 as 040315 (7pp931)

ALFA D13 77709A/43 =GB 1553-176
Prevention of bacterial growth in milk - by adding thiocyanate and hydrogen peroxide in sequence in the form of one tablet
ALFA-LAVAL AB 07.04.77-SW-004122
*E36 (D16) (19.09.79) *NL7803-658 A23c-03/08 +C01b-15*

Milk or milk contg. lactoperoxidase are preserved from bacterial deterioration during storage, by adding a hydrogen peroxide generating substance and a thiocyanate, both being in solid form. The thiocyanate added is at least sufficient to give an initial concn. of 0.15 mMoles l^{-1}, and is dispersed in the milk (prod.) before the addition of the hydrogen-peroxide generating substance, which is added to give a concn. of $\leqslant$ 0.75 mMoles l^{-1} (25 ppm). Pref. the hydrogen-peroxide generating substance is sodium percarbonate. Both components are contained in one tablet comprising an inner core of percarbonate, and an outer part of thiocyanate and lactose mixt.

The process used can be used in developing countries where machine equipment for milking is not common. 16.3.78 as 010518 (3pp931)

UNIL ★ D13 68612B/38 ★GB 2016-042
Jojoba oil coating agent for foods - prepd. by full or partial hydrogenation and used dissolved in volatile solvent
UNILEVER LTD 12.03.79-GB-008702 (14.03.78-GB-010096)
(19.09.79) A23g-01 C11c-03/12

Foodstuffs are coated with jojoba oil, which is either fully hydrogenated to a m.pt. of $\geqslant$ 70°C, or is only partially hydrogenated and is a liquid which remains clear for $\geqslant$ 24 hrs. at 25°C. The fully hydrogenated oil is a substitute for beeswax or carnauba wax for imparting gloss to chocolates etc. The partially hydrogenated oil can be used e.g. for coating dried fruit. The coatings are very stable.

The oil is pref. applied in soln. in a volatile solvent e.g. acetone, alcohol etc. The coatings pref. contain an antioxidant. esp. tocopherol, which is pref. supplied by addition of vegetable lecithin to the compsn. Partial hydrogenation is carried out using a fresh unsulphured metal catalyst, pref. reducing the iodine value of the oil by only about 2. This improves the stability greatly without raising the m.pt. or proportion of trans isomers too much. 12.3.79 as 7908702 (5pp955)

YOSH/ ★ D13 68825B/38 ★J5 4101-447
Germanium-rich foodstuff prepn. - by culturing Spirulina, Chlorella or similar algae in medium contg. germanium cpd. pref. as complex with EDTA
YOSHIDA R 23.01.78-JA-006517
(D16) (10.08.79) A23l-01/28

The method comprises culturing fine algae such as Spirulina, Chlorella, etc. in a culture liq. contg. a germanium cpd. A health food contg. a large amt. of germanium is obtd.

Large amts. of germanium are contained in Chinese drugs such as ginseng, garlic, polypore, etc. and the oral admin. of some organic germanium cpds. is effective for curing cancer, high blood pressure, hepatitis, etc. Suitably germanium oxide and EDTA are combined in the culture liquid to form a chelate cpd. When Spirulina or Chlorella is cultured in the culture liquid for ca. 10 days, they accumulate a considerable amt. of germanium in their body. 23.1.78 as 006517 (2pp5)

HOHN ★ D13 69142B/38 ★J5 4103-405
Edible oil resistant to spitting when used for frying or roasting - comprises vegetable oil contg. propylene glycol unsatd. fatty acid ester and lecithin, and storable at low temps.
HOHNEN OIL KK 01.02.78-JA-010191
(14.08.79) A23d-05/02

An edible oil for use in roasting or frying food, e.g. meat and vegetables which is resistant to spitting and excellent in low temp. storage property, is produced by adding 0.5-5 wt.% lecithin, e.g. obtd. from soybean, egg, corn, cotton seed etc. and 0.01-0.5 wt.% ester of propyleneglycol and unsatd. fatty acid, e.g. oleic acid etc., to a liquid vegetable oil based on the amt. of the plant oil so as to be dissolved therein.

The oil exhibits excellent transparency even after storage for long periods at low temp. The ester of propyleneglycol and the unsatd. fatty acid improves the solubility of the lecithin in the vegetable oil. 1.2.78 as 010191 (2pp34)

KYOW- D13 80729A/45 =J7 9024-911
Granulating moist foodstuffs under vacuum - without denaturation due to over compression
KYOWA SINKU GIJUTSU 12.03.77-JA-027496
*(24.08.79) *J53112-287 A23l-01/20 B01j-02/20*

A process and device are claimed for granulating a material contg. water, such as foodstuffs contg. alcohol and other organic solvents. The object is to avoid denaturation of the material due to over compression, internal friction, or crushing.

A thin pipe is connected to a container through a small hole, which is connected to an evacuator. A crusher is disposed in the container. The material is extruded into the container evacuated through the pipe and small hole. Thus extruded moulding is cooled in the container, which is maintained at a vacuum degree suited for holding the shape of the moulding in the container. The moulding is then crushed into grains. 12. 3. 77 as 027496 B01j-2/20 A231-1/209 (24. 8. 79) KYOWA SINKU GIJUTSU (5pp) (J5 3112287)

HERT- D13 73255U/48 =J7 9024-951
Wet fish feed - from comminuted offal in emulsified fat phase
HERTA KG (HER -) 10.05.72-DT-222966
*+P14 (24.08.79) *NL7306-373 A23k-01/18*

Moist feeds esp. for fish, contg. fat, protein and opt. carbohydrate, are made using comminuted animal bodies or parts of animal bodies, whereby the fats present in the animal carcasses and parts thereof and/or the animal and/or vegetable fats and/or oils added are comminuted to a particle size of mainly $<1\mu$ and converted into a technical emulsion.

The process gives nutritious feeds from offal with good availability of protein present. 10. 5. 73 as 051227 (clg. 10. 5. 72-DT-222966) A23k-1/18 (24. 8. 79) HERTA KG (5pp) (J4 9047193)

NISA- D13 43566T/27 =J7 9024-958
Artificial shrimp feed particles - contg protein and a binder
NIPPON SAIBAI SUIS (CORP) 01.04.69-US-812363
*C03 (24.08.79) *US3671-261*

NISA- D13 31245S/18 =J7 9024-959
Culture of fish and crustacea larvae with - starch and yeast extract
NIPPON SAIBAI SUIS (AYU /) 28.03.69-US-811636
*C03 (24.08.79) *US3576-643*

CHIN D13 53679T/34 =J7 9024-981
Liquid conversion into powder - esp. prodn. of propionic acid powder preservative giving ease of transport and safer handling
CHINOIN GYOGYSZER 27.01.71-HU-MA2188
*C03 E17 J04 +Q31 (24.08.79) *DT2201-284 A23b-09 A23l-01/20 A23l-03/34 B01j-01/24 C09k-03*

Liq. chemicals, esp. corrosive liqs. are converted into powder form by mixing or dispersing the liq. with a fine highly-dispersed solid (dispersion agent), pref. a powder, into a mixt. with a high degree of dispersion, contg. 50-95 pref. 55-80% of the original liq.

Technique is esp. useful for making propionic acid powder for the preservation of grain and esp. feeding stuffs including green fodder, the powder having greater bacterio and fungi-static activity than liq. propionic acid. Other powders can be used for disinfection, insect control etc. Handling and transport are easier and safer and the powder has good storability. 25. 1. 72 as 009414 (clg. 27. 1. 71-HU-002188) B01j-1/24; A23b-9/00; A231-1/20; 3/34; C09k-3/00 (24. 8. 79) CHINOIN GYOGYSZER - ES VEGYESZETI TERMEKEK GYARA RT (7pp)(J4 7016373)

MEIP D13 08334Y/05 =J7 9025-004
Beta:lactose prodn. - by adding specified amt. of water to alpha:lactose and heating under pressure
MEIJI MILK PRODS KK (MEIJ) 10.06.75-JA-069135
*E13 (24.08.79) *J51146-411 C07h-03/04*

A small amount of water at the top of the cylinder (pref. 2-15% basing on the amount of lactose) is added to α-lactose or the material contg. α-lactose, and the mixt. is injected under pressure from an extruder (pref. screw extruder). The temp. of the mixture at the top of the cylinder is elevated to 100-200° C under 5-40 kg/cm^2 pressure by the frictional heat and heat of compression, and α-lactose is thus converted to β-lactose. Obtained β-lactose or β-lactose contg. prod. may be dried and crushed if necessary.

If the amt. of water to be added is over 15%, injected β-lactose which is once generated by the conversion from α-lactose, becomes muddy and turns back to α-lactose again if it is allowed to stand in such state. If the amt. of water is 4-7%, the injection may be performed smoothly and injected product contg. β-lactose is the slurry containing only small amt. of water, and this water is evaporated at once and the amt. of water is reduced to 1-5%. Therefore, the conversion back to α-lactose may be hardly caused.

The process may be useful for the preparation of the r material for modified powder milk, baby food, and health diets. The prod. is moreover, superior in the crumbling resistance and binding power as well as in the sweetness, therefore, it serves quite well for the improvement of bulking agent for tablets of medicines. 10. 6. 75 as 069135 C07h-3/04 (24. 8. 79)MEIJI MILK PROD. KK (4pp) (J5 1146411)

GOTO/ ★ D13 69242B/38 ★ J7 9025-09
Wrinkle-fee pickled plums prodn. - involves use of plums whic have been contacted with sugar fermentation liq. contg. water
GOTO K 00.00.73-JA-079350
(25.08.79) A23b-07/10 A23l-01/21 C12g-03/02

To pickled plums prepd. in a conventional manner, is add plums which have been contacted with sugar fermentation liq. contg. water. Pickled plums of good taste and free from wrinkles are obtd. 12. 10. 72 as 79350/73 A23b-7/10 A231-1/218; C12g-3/02 (25. 8. 79) GOTO, K. (4pp22) (J5 0025753)

QPPP ★ D13 69243B/38 ★ J7 9025-10
Storing boiled eggs - in a sealed synthetic resin bags contg. carbo di:oxide
Q.P. CORP 15.03.72-JA-025764
A92 (25.08.79) A23b-05/06

A boiled egg is sealed together with carbon dioxide gas in a synthetic resin bag. Typically boiled eggs are placed in cellophane-polyethylene laminated bag and 0. 2kg of carbon dioxide gas is introduced and the bag sealed. 15. 3. 72 as 025764 A23b-5/06 (25. 8. 79) Q. P. CORP. (2pp22) (J4 8090864)

QPPP ★ D13 69244B/38 ★ J7 9025-10
Sealing boiled eggs in a vessel - by treating eggs with protease, i vessel together with seasoning and sterilising
Q.P. CORP 27.04.72-JA-042234
(25.08.79) A23b-05 A23l-01/32

Boiled egg is treated with protease and sealed in a vessel together with seasoning liquid, and sterilised. The boiled eggs can be stored for a long period of time without becoming too hard. 27. 4. 72 as 042234 A23b-5/00; A231-1/3 (25. 8. 79) Q. P. CORP. (3pp22) (J4 9001762)

QPPP ★ D13 69245B/38 ★ J7 9025-102
Sealing boiled eggs in a vessel - by placing with seasoning and magnesium chloride, sodium citrate, calcium chloride or potassium phosphate in vessel, sealing and sterilising
Q.P. CORP 22.05.72-JA-049836
E12 (E33 E34) (25.08.79) A23b-05 A23l-01/32

In a vessel are placed boiled eggs, seasoning agent and $MgCl_2$, Na citrate, $CaCl_2$ or K phosphate. The vessel is sealed and sterilised.

Storage without becoming too hard can be attained. 22. 5. 72 as 049836 A23b-5/00; A231-1/32 (25. 8. 79) Q. P. CORP. (3pp22) (J4 9013362)

QPPP D13 16908B/09 =J7 9025-103
Prepn. of dry yolk compsn. - by adding non-volatile alkali and sugar to liq. yolk and drying
Q.P. CORP 17.06.77-JA-071673
*(25.08.79) *J54008-762 A23b-05/02*

The method comprises combining non-volatile alkaline agent and sugar in liq. yolk and drying the mixt. The non-volatile alkaline agent is e.g. Na_2CO_3, Na phosphate and NaOH.

Compsn. can be dissolved in water easily and the yolk dispersion does not suffer from sedimentation and sepn. 17. 6. 77 as 071673 A23b-5/02 (25. 8. 79) Q. P. CORP. (4pp) (J5 4008762)

SAOK ★ D13 69246B/38 ★ J7 9025-105
Prepn. of seasoning agent contg. table salt - by mixing glycyrrhizin soln. with table salt, then drying under agitation
SANYO KOKUSAKU PULP 18.01.73-JA-007355
E13 (25.08.79) A23l-01/23

Glycyrrhizin soln. is mixed with table salt, then dried with agitation cause foaming. An effective component of lycyrrhizin coated with table salt is thus obtd. which is seful as seasoning agent. 18.1.73 as 007355 A231-1/237 25.8.79) SANYO KOKUSAKU PULP (3pp22) (J4 9093570)

QPPP ★ D13 69247B/38 ★J7 9025-107

Mfg. emulsified oily foodstuff - by dispersing water-sol thickening agent in edible oil and emulsifying resultant with aq. base component

Q.P. CORP 15.03.72-JA-025763

(25.08.79) A231-01/24

Six pts. or less of thickening agent which is sol. in water under cooling is dispersed in 100 pts.wt. edible oil, and the resultant is emulsified with aq. base component. 15.3.72 as 025763 A231-1/24 (25.8.79) Q.P. CORP. (4pp22) (J4 8092566)

MOFO= ★ D13 69430B/38 ★SU -637-645

Foodstuff rheological properties evaluation - using thermostatically-controlled chamber with ejecting membrane and cap with capillary

MOSC FOOD IND TECHN 17.06.77-SU-500891

R16 (15.12.78) G01n-11/08

Device for studying the rheological properties of food masses, e.g. of visco-plastic materials, comprises a measuring chamber, divided by an elastic membrane into two sections, and and end-cap with a capillary. The accuracy of the measurement of the pressure is increased, the thermostatic control of the edible mass under investigation is improved, and a more reliable sealing of the working liquid is created, by corrugating the peripheral part of the membrane where it presses against the wall of the chamber. The edible mass is put into the thermostatically-controlled measuring chamber, an end-cap is put in place at one end and then the whole assembly is screwed into another cap at the other end.

Azarov, B.M., Kozlov, I.N., Torgashev, V.E., et al Bul.46/15.12.78.17.6.77.as500891(2pp29).

SMIR/ ★ D13 69466B/38 ★SU -638-322

Preserving green vegetation for animal fodder - by baling, sealing and immersing in sodium chloride soln. in underground reservoir cold from winter

SMIRNOV P A 25.07.75-SU-164522

C03 (29.12.78) A23k-03/02

Green vegetation mass for animal fodder is preserved by compacting, packaging and treating with 20% sodium chloride solution as coolant to provide amore efficient cooling than cold air.

Fodder is pressed into bales, seal-wrapped and immediately immersed in 20% NaCl in an underground reservoir, the surrounding earth and the soln. itself having become cold during the winter. The method requires no cooling equipment and minimises loss of fodder nutritive value and weight.

Smirnov, P.A., Bul.47/25.12.78.25.7.78.as164522(2pp-1358).

CANN= ★ D13 69467B/38 ★SU -638-323

Dry vegetable based paste for infants - contg. potatoes, carrots, onions, cabbage, beet, pumpkin and opt. meat and wheat flour

CANNING VEGETABLE 24.12.74-SU-089435

(28.12.78) A231-01/21

Dry vegetable puree for infants is improved by addition of gourd and beetroot, whereby its nutrient value and assimilability are improved, and the storage can be prolonged (to 18 months or more). The compsn. contains(in pts.wt): potatoes 35-45, carrots 20-25, onion 1.2-2.2, cabbage 5-7, green peas 5-8, salt 0.3-0.8, gourd flesh 20-37, beetroot 3-8. It may opt. contain 12-15 pts. wt. of meat.

The compsn. is diluted with boiling milk, broth or water. The taste of fresh vegetables is preserved.

Khovanskaya, S.S., Dmitrieva, E.T., Bul.47/25.12.78. 24.12.74.as089435(3pp70).

ASGE= ★ D13 69595B/38 ★SU -638-581

Ammonium phosphate fertiliser and animal feed additive - by treating wet process phosphoric acid and ammonia reaction prod. with ammonium bi:carbonate, sepn., and ammonia treatment

AS USSR GEN INORG 19.04.76-SU-350194

C04 E35 (C03) (28.12.78) C05b-07 C05b-25/28

Prepn. of NH_4-phosphate by neutralising wet process H_3PO_4 with ammonia to pH 2.5-3 to form pulp is modified to give lower F content in final prod. by neutralising prepd.pulp to pH 7-8 wtih ammonium carbonate or bicarbonate. The Al and Fe fluorophosphate salts are easily removed. Subsequent neutralisation with ammonia to pH 9.6-9.8 gives$(NH_4)_3PO_4$ which is sepd. off and dried into $(NH_4)_2HPO_4$.

1 l soln. contg.(g): P_2O_5 245; FE 5.2; Al 3.4; F 11.4, is filtd. at 50ml/dm^2 per min. at pH 7-8 to give 63g sediment contg. 11.9 g F. The filtrate is adjusted to pH 9.7 and centrifuged.

Ippolitov, E.G., Kozhevnikov, L.D., Zhigarnovskii, B. M., et al Bul.47/25.12.78.19.4.76.as350194(2pp114).

AUPH= ★ D13 69613B/38 ★SU -638-600

Extn. of gelling polysaccharide from Phyllophora nervosa - includes treatment with boiling aq. sodium hydroxide, air-drying, water washing and extn. with hot water

AS UKR PHYS CHEM 16.03.77-SU-463768

(28.12.78) C08b-37

An agar-like prod.(I) is extd. from Black Sea sea-weed (Phyllophora nervosa) by the following process(1) treating air-dry weed(18 % moisture content) for 10-15 mins. with boiling NaOH soln. of 4-6% concn.(2) washing once with sea-water(3) air-drying for 10-12 hrs.(4) washing 3 times with sea-water(the final wash at pH 9-9.5).(5) washing once with tap-water(6) extracting (I) with water at 95-100°C for 1.5 hrs.

In the stage (1) protein and coloured impurities are removed. High quality (I) is obtd. in 21-23% yield with satisfactory colour, smell and transparency.

Gazha, P.A., Berezovskaya, I.V., Andrianov, A.M., et al Bul.47/25.12.78.16.3.77.as463768(2pp1360).

BEWA- D13 61541Y/35 =US 4167-137

Roasting thin potato slices to crisps - using roasting vapours from roasting step for drying prod. (BE 22.8.77)

INST BEWARING VERWE (LAND-) 24.02.76-NL-001876

*+P28 (11.09.79) *DT2708-060 A47j-37/12*

The appts. for frying thin potato slices to chips comprises an oil vessel, means to control the displacement of the slices from one end of the vessel to the opposite end. It also includes an inclined conveyor to remove the slices from the oil a hood and at least one exhaust channel for the frying vapours.

A drying device is provided to reduce the moisture content of the slices to the desired final value, the drying device having at least one conveyor provided with openings. The space at one side of the conveyor is in connection with a flowing channel for at least a portion of the frying vapours formed above the oil and the space at the other side of the conveyor is in connection with an exhaust channel for frying vapours. 22.2.77 as 770775 (6pp911)

DYNL ★ D13 69743B/38 ★US 4167-422

Acid-insol., non-bleeding organic pigment lakes - comprise polymeric dyes adsorbed onto inorganic oxide extender

DYNAPOL 30.08.74-US-501900

A97 B04 E24 (D13) (11.09.79) C04b-31/38

Lake comprises an acid soluble macromolecular polymeric dye (I) adsorbed onto a particulate, water insol., solid, opaque inorganic oxide extender (II). (I) has organic chromophoric and non-chromophoric moieties chemically linked in wt. ratio 0.2-1.5:1 (resp.). (II) has particle size 0.5-50 μ.

The lake is insol. at acid pH and has enhanced stability to light and reducing agents. By choice of (I) the lake may be used in foodstuffs or as industrial deep shade and superior covering power pigments. High mol. wt. dyes which are not absorbed through the G.I. tract may be used in prodn. of lakes for e.g. beverages, preserves, pickles, dry beverage bases, cough syrups, pharmaceutical prepns. etc. 30.8.74 as 501900 (11pp949).

UNIL ★ D13 69801B/38 ★US 4167-523

Thiol-carboxy-methoxy-succinic acid cpds. - useful as foodstuff flavouring cpds., metal ion sequestrants and detergent builders

UNILEVER NV 04.04.78-US-893227 (16.05.77-US-797226)

E17 (D25) (11.09.79) C07c-153

New thiolcarboxymethoxysuccinic acids are of formula $CH_2(CO-X^1)-CH(CO-X^2)-O-CH_2(CO-X^3)$ (where X^{1-3} are each OH or SH, $\geqslant$ 1 being SH), and they are useful as foodstuff flavouring cpds. and metal ion sequestrants. In the form of the alkali metal, ammonium and alkylolammonium salts, the cpds. or the hydrated forms are useful as both metal ion sequestrants and detergent builders.

The cpds. may be prepd. by reacting carboxymethyloxysuccinic anhydrides claimed in US4093634 with H_2S and/or an alkali metal hydrosulphide or a tert. amine hydrosulphide. 4.4.78 as 893227 Div. ex 4093634 (7pp990)

UNIL ★ D13 69802B/38 ★US 4167-524

Carboxymethyl-oxy-succinic tri:halide cpds. - useful for reaction with active hydrogen cpds. to produce e.g. polymeric carbohydrate derivs.

UNILEVER NV 04.04.78-US-893232 (16.05.77-US-797226)
E16 (D25) (11.09.79) C07c-55/22

New carboxymethyloxysuccinic trihalides are of formula $CH_2(CO\text{-}A)\text{-}CH(CO\text{-}A)\text{-}O\text{-}CH_2(CO\text{-}A)$ (where A is Cl (pref.) Br or I).

The cpds. may be prepd. by reacting carboxymethyloxy-succinic anhydrides claimed in US4093634 with excess thionyl halides or phosphorus tri- or penta-halides in the presence of zinc halides. They may be reacted with active hydrogen cpds. to produce useful derivs., e.g. the thiolcarboxymethoxysuccinic acids claimed in US4167523 and derivs. of polymeric carbohydrates (e.g. starch) useful for the prodn. of edible films, coatings, adhesives and detergent builders. 4.4.78 as 893232 Div. ex 4093634 (7pp990).

MICH/ D13 20447B/11 =US 4167-559

Oral deodorising compsn. - contg. extract of Yucca gloriosa, vegetable protein, sweetener, colourant, lubricant, vehicle and binder

MICHEL G H 22.04.77-US-790041
*E12 (D21) (11.09.79) *J53133-645 A61k-07/26 +A61k-09/68 C07j*

A breath deodourising compsn. is prepd. comprising 1.0-90.0wt.% of the 50wt.% solids extracts from the Yucca Brevifolia or Schidigera plant, dried to 3wt.% moisture content, and blended with 10.0-90.0wt.% of a food grade vegetable protein.

Pref. the protein used is Soya Isolate, cornmeal, oatmeal or wheat germ protein. The compsn. is prepd. in tablet form and further comprises a sweetener, a colouring agent, a lubricant, an excipient, a binder and a flavouring agent blended with the extract and the protein. The sweetener is sucrose; the colouring agent is water soluble chlorophyll; the excipient is Atmos 150; the binder is Avicel; the lubricant is magnesium-, zinc-, or calcium stearate; and the flavouring agent is peppermint oil, wintergreen oil, oil of spearmint, orange oil or lemon oil.

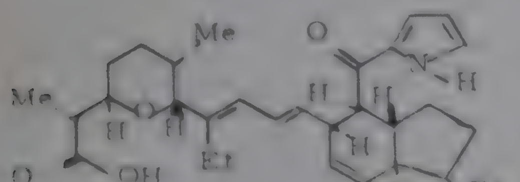
The compsn. is esp. used in tablet form to reduce or eliminate tobacco and alcoholic odours from the oral cavity. 22.4.77 as 790041 (2pp931).

HOFF D13 10289A/06 =US 4167-579

Antibiotic obtd. by culturing Streptomyces strain - for use as antibacterial, antihypertensive and feed additive

HOFFMANN-LA ROCHE INC 06.08.76-US-712286 (20.04.78-US-898054)
*B03 C02 (D22) (11.09.79) *BE-857-513 A61k-31/40*

Method for increasing the efficiency of feed utilisation of ruminants having a developed rumen function, comprises the oral admin. of a propionate increasing amt. of the novel antibiotic X-14547 of formula (I) or its acceptable salt:



(I)

Pref. (I) is used in a ruminant feed material as a feed additive premix.

(I) is prepd. by cultivating a strain of Streptomyces Sp. X-14547 in an aq. carbohydrate soln. contg. nitrogeneous nutrients and mineral salts. 20.4.78 as 898054 Div. ex 4100171 (1?pp).

KEMI- D13 52805B/29 =US 4167-584

Stable emulsified liquid starch prod. - for adding to dried animal feed (PT 22.6.79)

KEMIN INDU INC 09.01.78-US-867809
*C03 (11.09.79) *DT2824-830 A23k-01*

Animal feed consists of 90-95 wt.% dry feed and 5-10 wt.% (dry basis) stable emulsified liq. starch prod. which is free of non-protein nitrogen additives and comprises 45-85 wt.% edible liq. The compsn. further comprises 15-55 wt.% whole starch-bearing material emulsified with the edible liq. and 0.25-1 wt.% of a preservative mixt. for mould prevention to provide an emulsion which is stable for 3-6 months, but is conveniently pourable. The starch-bearing material is cooked, gelatinised and (partially) enzymatically hydrolysed. Most of the particles of the emulsion do not exceed an average dia. of 300 µ.

A method is claimed for feeding monogastric animals, ruminants, and pseudo-ruminants, the animals achieving a feed efficiency and wt. gain equal to results obtd. on dry feed basis, by replacing 5-10 wt.% of animal feed with the above. 9.1.78 as 867809 (6pp963)

HEAT- ★ D13 69831B/38 ★US 4167-585

Heating and cooking food articles in closed chamber - with heated concurrent process vapour moistened by intermittently released steam

HEAT & CONTROL INC 21.11.77-US-853503 (02.02.73-US-328925)
Q77 (11.09.79) A22c-17 A22c-25 F27b-09

In a continuous process for heating and cooking foods in discrete pieces, the food is moved through a treatment chamber on a conveyor. A gaseous process vapour is rapidly and continuously circulated through the chamber concurrent with the movement of the food pieces. The vapour is heated to 165-600°F and has a temp. differential of 295-560°F with the food pieces.

The centre temperature of the food pieces is raised to 140-195°F and saturated steam is intermittently released into the chamber to raise the moisture content of the vapour. External air is continuously removed from adjacent the chamber inlet and outlet openings to substantially remove external air from the process vapour. The moisture content of the circulating vapour is continuously monitored and this value is used to control the intermittent release of the saturated steam into the chamber.

The process is used in the heating and cooking of food articles such as meat patties. The moisture content of the food article is controllable while it is handled as little as possible to preserve its shape and avoid crumbling. 21.11.77 as 853503 C.i.p. 3947241 (+27.1.75, 1.3.76 - US-544393, 662512) (19pp295).

HEIN/ D13 63384Y/36 =US 4167-586

Foodstuff additive contg. animal blood albumin - in a hydrophilic phase as coating on a lipophilic phase, useful in cookery and similar to eggs

HEINE J 28.11.75-AR-261412
*(11.09.79) *FR2332-714 +A23j-03*

A compsn. for use as a human food with high protein value and simulating a liquidous whole egg material, is prepd. by mixing a first emulsifier with stirring with 4.0-17wt.% of a fat oil in a fluid state to obtain a homogeneous mixt. at 7°C.

The temp. of the resultant mixt. is reduced to 40°C continuing the stirring. Lecithin is added with stirring, followed by the gradual addition of water contg. a sugar in sweetening amts. and a pre-dissolved preserving agent, to obtain a slow but progressive increase in the temp. under stirring to obtain a fat in water emulsion. The temp. of the emulsion obtd. is lowered to 40°C, then 50-86.8wt.% of animal blood albumin is added in two stages. ≤ 20wt.% of albumin is added slowly to maintain the emulsion, and the remainder added rapidly. The emulsion is then treated to homogenisation at 40-50°C to obtain microcrystals of size 2-3 microns.

The temp. of the mixt. obtd. is reduced to 25°C, and the emulsion reformed and cooled to ≤10°C. The emulsion is finally stored at ≤ -5°C. Emulsifying agents are present to 4-14wt.% and water to 5-35wt.% w.r.t. the compsn. 27.10.77 as 845939 (+ 1.11.76-US-7[illegible]

NF/ ★ D13 69832B/38 ★US 4167 587
rple-coloured grape-flavoured acidic foods and drinks - contg. ater, food base, and a dispersed edible protein with adsorbed ythrosine
DANFORTH R C 22.06.77-US-808731
(11.09.79) A23l-02

rple-coloured, grape-flavoured liq. food or drink has colour between red and blue, pH < 4.2, and contains O; and edible soluble or dispersible protein (I); erythro- ne (Red No. 3 and/or its lakes) (II); and a potable liq. rple-coloured, grape-flavoured beverage base. (I) is ained by (II), and is dispersed throughout the compsn.

Using (I) stained by the dye (II) (normally insol. in idic media) and dispersed throughout the compsn., a nge of acidic foods and drinks may be prepd. which have sp. appealing colours. In addn., the compsns. contain dded proteins.

(I) may be any edible protein, but is pref. in refined rm (whey protein, egg albumin, wheat protein solubles, olubilized casein, etc.) with size ≯ 60 Mesh. 22.6.77 as 08731 (4pp478).

ILL/ ★ D13 69833B/38 ★US 4167-588
repn. of fabricated baked potato prods. - consisting of potato mash ore, and outer skin of baked potato solids
WILLARD M J 04.10.76-US-729480 (10.04.74-US-459467)
(11.09.79) A23l-01/21

abricated potato (I) prods. contg. baked (I)-solids are repd. as follows: (a) pieces of (I) tissue are baked while he (I)-insides are exposed to the air; (b) the baked pieces re comminuted; (c) a (I)-dough is formed from the comminuted baked (I)-pieces; (d) a cooked (I)-mash is prepd.; nd (e) an inter. fabricated (I) prod. is formed by sealing core of the cooked (I) mash in (d) inside an outer layer f the dough in (c).

The inter. fabricated (I) prod. may be e.g. fried in il to rapidly afford a baked potato which retains the flavour of fresh baked (I). The prepd. material is suitable for deep freezing. 4.10.76 as 729480 (15pp478).

VITZ/ D13 80818T/51 =US 4167-589
Tea with low caffein content - by selective extraction with wet supercritical gases
VITZTHUM O (HAG -) 03.06.71-DT-127642
*(11.09.79) *NL7207-534 A23f-03*

Caffeine free black tea is produced by extracting tea leaves with a dry extraction solvent gas to extract the aromatic content of the tea and leave a tea residue; then the aromatic content is separated from extraction solvent, the tea residue is then extracted with a moist extraction gas to remove the caffeine; and the aromatics separated in the second step redissolved using an extraction solvent gas, and the aromatics separated from the gas in the presence of the caffeine-free tea residue to impregnate the residue with the original aromatic content.

The dry extraction solvent gas has selective dissolving capacity for the aromatic component, which is maintained in the super-critical state w.r.t. temp and pressure. The moist extraction solvent gas has selective dissolving capacity for the caffeine, and is supercritical w.r.t. temp. and pressure. The extraction solvent gas of the fourth step is supercritical w.r.t. temp. and pressure.

Caffeine-free black tea leaves and caffeine-free instant tea can both be prepd. in the process. 26.4.77 as 791097 (+1.6.72, 15.4.74, 6.1.76 -US-258508, 461056, 646779) (4pp931).

STAD ★ D13 69834B/38 ★US 4167-591
Texturisation of whole cell, single cell proteins - by mixing with protein texturising agent, solvent coagulating and whipping, and thermal fixing
STANDARD OIL CO (IND) 03.08.77-US-821350
(D16) (11.09.79) A23j-03

Whole cell, single-cell protein material (I) (≮ 15% protein) is textured by (a) mixing (I) with a solvent coagulable proteinaceous texturising agent (II) with wt. ratio (I):(II) = 9-1:1; (b) whipping the resulting slurry while an alcohol coagulating solvent is added to give a microporous texture during coagulation; and (c) thermally fixing the coagulated mixt. at 80-250°.

Process effectively texturises microbial cells which are distinctly separate particles. (I) may be bacteria or yeasts, etc. pref. a yeast such as Candida utilis. (II) is suitably gelatin, protein concentrates, protein isolates (e.g. soy isolate), or mixts. The alcohol solvent is pref. EtOH. Heat treatment is pref. at 100-250° (pref. 120-300° in an autoclave) for 0.5-45 min. 3.8.77 as 821350 (4pp478).

See Also

D12 EP --4161	D13 US 4167422	D15 DT 2809493
D16 SU 637431	D16 SU 637671	D16 US 4167447
D18 GB 2015961	D23 GB 1552857	D23 US 4167497

D14: FOODSTUFF MACHINERY

CHAN/ ★ D14 68542B/38 ★FR 2411-259
Fabrics incorporating elastic pref. silicone rubber cords - anchored by latex impregnation, used esp. for mfr. of dairy produce filters
CHANET J H 06.12.77-FR-037285
A88 F07 P13 (10.08.79) A01j-25/13 D03d-15/08 D06m-15/66

An elastic ribbon is made by enclosing cords of silicone rubber in a woven fabric and then impregnating the fabric with sufficient silicone rubber as a latex to anchor the rubber cords in their position within the fabric.

Prod. is suitable for prodn. of elastic sleeves for covering rigid objects, esp. for filters for covering cheese moulds. The rubber cords may be conc. in part of the fabric area so that the fabric is elastic in both the longitudinal and transverse directions. Pref. the rubber is self-curing. 6.12.77 as 037285 (8pp515).

MEIP D14 88392A/49 =J7 9024-910
Device for fine-powders e.g. coffee prodn. - where raw material is conveyed to granulator by compressed air
MEIJI MILK PRODS KK 00.00.78-JA-043961 (21.11.75-JA-140002)
*(24.08.79) *J53124-171 B01j-02/16 + A23p-01*

A humidifier is disposed in a conveyor pipe for carrying the raw powder with air and dispersing it in the air and provided with nozzles for blowing a humidifying fluid. An annular slit is formed to blow the compressed air to the inner wall of the humidifier.

Specifically a granulator is connected to a lower end of the humidifier through the annular slit, around which an air compressor is disposed to form an air layer along the inner wall of the humidifier. 21.11.75 as 43961/78 Div. ex. 140002/75 B01j-2/16; A23p-1/00 (24.8.79) MEIJI MILK PRODS. KK (3pp) (J5 3124171)

MEIP D14 88393A/49 =J7 9024-986
Device for mfg. finely powdered food - includes a humidifier with a perforated wall for blowing air through to prevent powder deposition on the wall
MEIJI MILK PRODS KK 00.00.78-JA-043962 (21.11.75-JA-140002)
*(24.08.79) *J53124-172 + A23p-01 B01j-02/16*

A humidifier having a nozzle is disposed ina conveyor pipe for conveying raw powder with air and dispersing it. Small holes are bored through the side wall of the humidifier to blow air into the pipe, thus preventing the powder from depositing on the wall. The humidifier nozzle may consist of a steam nozzle and an air nozzle for quickly humidifying the flowing powder while air is sprayed around the steam flow from the steam nozzle to produce fine powder.

The device may be used for producing e.g. defatted or fat milk powders, and coffee powder. A fine powder with compact structure is thus efficiently obtd. 21.11.75 as 43962/78 Div ex 140002/75 B01j-2/16; A23p-1/00 (24.8.79) MEIJI MILK PRODS. KK (3pp) (J5 3124172)

FOOD= ★ D14 69460B/38 ★SU -638-307
Pump for edible liquids, such as milk - with working wheel, electromagnetic valve controlled inlet and outlet lines, and stationary discs with guiding vanes
FOOD MACH CONS RES 24.02.77-SU-456296
P13 Q56 (28.12.78) A01j-01 F04c-15

Device for pumping-over edible liquids such as milk and other dairy prods., includes a body with a working wheel, cover with withdrawl and delivery pipes, attachment for sealing the working wheel from the surrounding medium, made as a rotated chamber, and and electric motor. The life and operational reliability are increased, by fitting the chamber with stationary discs, between which guiding vanes are positioned. The diameter of one of the discs exceeds the diameter of the other by a value which guarantees the take-off of excess liquid into the space of the working wheel. Valves, interlinked to the electric motor, are installed on the withdrawal and delivery pipelines. Generalov, A.F., Zemskov, V.V., Kuzmin, Yu.N., et al Bul.47/25.12.78.24.2.77.as456296(3pp29).

MOLD= ★ D14 69689B/38 ★SW 7900-850
Rapid freezer for food - has fan, air cooler, and net-like carrie plates attached to conveyor line which follows helical path through freezer chambers
MOLDAVIAN FOOD IND 01.02.78-SU-576361
Q75 (03.09.79) F25d-13/06

A multi-level conveyor is formed by a linw that passes several times around a pair of spaced vertical rollers. The food to be frozen is carried by net-like base plates hooked or clamped onto the line. The base plates are supported by small rollers.

The appts. includes a fan and an air cooler. The food frozen by the appts. may be fresh fruit and vegetables, processed food or ready-to-eat dishes. 31.1.79 as 00085 (-pp1407)

FREI/ ★ D14 B/38 ★ZA 7805-263
fruit and vegetable preservation - by picking naturally and covering with sulphur di:oxide-releasing paper
FREIJI M 15.09.78-ZA-005263
E36 (19.07.79) A23l

A fruit-and-vegetable preservation process consists in picking ripe fruit and vegetables in a natural manner and in covering them with paper specially prepd. to release sulphur dioxide. 15.9.78 as 005263 (10pp)

D15: WATER TREATMENT

RHON ★ D15 68134B/38 ★BE -874-809
Contactor for substances in different phases - incorporates double-walled annular body terminating in restricted opening surrounding axial pipe giving uniform contact and simple cooling
RHONE-POULENC INDUSTRIES 14.03.78-FR-007248
A35 E36 J02 (13.09.79) B01j

An appts. for contacting substances in different phases incorporates an axial pipe, through which solid, liquid or semi- liquid phases are charged and an annular space terminated by an opening or restricted section through which gases, e.g. air, are charged. The axial pipe debouches at the level of the restricted opening. The annular space is defined by a rigid axially symmetrical element closed except at ist downstream part. It is divided into two by a distributor which is mechanically independent of the rigid element, and it has a tangential inlet.

The rigid element is pref. double-walled, with an axial cavity in which the axial pipe fits, and terminated at its downstream part by two convergent concentric truncated cones surrounding the axial phase inlet pipe. A cooling agent flows between the two walls. The distributor is pref. removable and constituted by a perforated cylinder cutting the cones.

The appts. can be used to carry out a great number of processes, e.g. evapn.; concn.; dry mixing; chemical reactions e.g. treatment with sodium hydroxide of a gas contg. CO_2; treatment of thermosensitive materials; co-pptn. of a soln. of latex and a silica; treatment of waste waters. 13.3.79 as 874809 (13pp1192)

INSF ★ D15 68136B/38 ★BE -874-818
Cleaning polluted surfaces, esp. water covered with oil - using powdered mineral silicate and specified surfactant
INST FRANCAIS DU PETROLE 21.03.78-FR-008085
A97 E17 H03 P43 (D25) (14.09.79) B08b C11d

Surfaces polluted by hydrocarbons, fats, oils and analogous materials are treated by spreading on the surface (a) $\geq$1 powdered mineral silicate and (b) $\geq$1 surfactant of hydrophilic/liplphilic (HLB) ratio of $\leq$12 as a soln. or emulsion in a polar or non-polar liquid, the amt. of surfactant being 0.5-5% of the mineral powder.

The process is partic. applied to sea and inland water, sand, rocks, factories and roadways. The treatment has the advantage of an adsorbing action and ensures the biodegradation of the polluted material. It also avoids the environmentally unfavourable action of dispersant surfactants. 14.3.79 as 874818 (10pp597)

MIRK- ★ D15 68156B/38 ★BE -876-048
Flotation separator partic. to skim surface oil from sewage - is inexpensively constructed and easily adjustable for searching sepn.
MIRKOZ DIESEL HUTOT 05.05.78-HU-MO1013
J01 (03.09.79) B01d C02c

Separator is of the type in which the liq. is directed in laminar flow longitudinally through an oblong tank. Surface liq. is driven by fluid from nozzles above the liq. To rise up a skimming blade attached to a float.

The blade makes an acute included angle with the surface, into which its lower edge cuts to a level below the layer of floating impurities. The upper edge of the blade is seamed to the top ot an open-bottomed collecting sump fixed to the float. The sump top is above and its bottom well below the liq. surface.

The sump contains an outlet passage flexibly piped to a discharge from the tank. The mouth of the outlet passage is above the level of liq. surface in the tank but below the surface of the layer of impurities collected in the sump.

Purificn. of sewage by removal of polluting oil. Recovery of the oil for economic utilisation, e.g. combustion in burners of heating boilers. Simplicity of construction coupled with very searching sepn. e.g. from 5.28 m^3 of polluted sewage it is possible to recover all but 0.2 litre of oil from a total of 28.7 litres. 4.5.79 as 876048 (10pp)

CIBA ★ D15 68192B/38 ★CH -612-655
Effluent water treatment - with anaerobicpretreatment in fluidised bed of microorganisms on an inert carrier, followed by aerobic treatment
CIBA GEIGY AG 03.06.75-CH-007125
(15.08.79) C02c-01/17

Parent patent describes a process for treating effluent waters in which the water is first treated under anaerobic conditions with microorganisms on an inert carrier, and the water is then treated under aerobic conditions. In this addn., improved results are now obtd. if the anaerobic treatment is carried out with microorganisms on an inert carrier in a fluidised bed.

Pref. the anaerobic treatment is carried out in a fluidised bed of anaerobic bacteria mounted on a carrier such as active charcoal, coke, slag, pumice, porous ceramic, etc. The anaerobic pretreatment is carried out e.g. at pH -8, esp. 7 and a temp. of 10-40 (20-30)°C. After the anaerobic pretreatment in a fluidised bed, the water is subjected to a normal anaerobic treatment. 3.6.75 as 007125 Add. to 582630 (3pp513)

DUNK/ ★ D15 B/38 ★DK 7800-514

Water purification appts.

DUNKERS K R 03.02.78-DK-000514

(27.08.79) C02c

DORO D15 68909R/38 =DS 2010-832

Continuous sedimentation

DORR OLIVER INC 10.03.69-US-805568

*(13.09.79) *NL7003-306 B01d-21/24*

A Dorr-type thickener for sewage treatment has revolving drive arms from which the raking arms above the settling tank bottom are suspended. The main inflow cylinder is fixed to the drive arms. In addition, an auxiliary coaxial inflow cylinder is arranged above the main inflow cylinder. Two vertical pipes with elbow outlets facing in opposite directions pass the sewage from one cylinder to the other.

The result is a very robust structure of the drive arm connection to the vertical shaft. The raw fluid is passed into the settling tank with a still more uniform distribution which converts the kinetic energy of the inflow with little turbulence. 7.3.70 as 010832 (7pp39)

HEYL D15 36560V/20 =DS 2300-606

Automatic control programmer for water softening plant - in which regeneration is related to output flow and feedwater hardness value

HEYL GEBR KG 08.01.73-DT-300606

*+R43 (13.09.79) *BE-809-516 C02b-01/76*

A switching circuit to trigger the regeneration period of a water softening plant produces the triggering pulse as a function of the water quantity, counted by a water meter as quantity count pulses and of the average water hardness. A time controller, pref. a univibrator with an adjustable pulse length, actuates at each received count pulse for an adjustable period of time a time integrator which triggers the switch mechanism after a pre-set integration interval.

This control circuit is simple and can be produced at low cost. It can be easily adapted to a different water hardness without interfering with the water meter. 8.1.73 as 300606 (6pp39)

MENZ- D15 75972V/44 =DS 2310-978

Activated sludge purificn tanks - ventillated by compressed air, with submerged rotating tube turbines

MENZEL & CO GMBH 06.03.73-DT-310978

*(13.09.79) *DT2310-978 C02c-01/06*

An aeration tank for a biological sewage treatment plant of circular or polygonal cross-section has in the centre of its flat bottom a flow deflecting cone. The compressed air aerator tubes are arranged in a radial pattern from this cone to near the outer tank wall. A propeller inside a short tube near the side wall ensures that a circular motion of the sewage is maintained.

The higher velocity near the tank walls leads to an inward flow component which is deflected upwards as it meets the central cone. This rolling motion is superimposed on the circular motion and ensures a max. intake of oxygen in the sewage. 6.3.73 as 310978 (5pp39)

VEKE- D15 45323V/25 =DS 2324-351

Sewage treatment sludge concentrating plant - with improved heat recovery from treated concentrate to incoming raw sludge

VER KESSELWERKE AG (VERE-) 14.05.73-DT-324351

*(13.09.79) *BE-808-258 C02c-03*

A plant for the conditioning of sewage sludge consists of a high-pressure pump, an indirect heat exchanger and a reactor to condition the sludge at high pressure and high temp. An automatically controlled pressure reducing valve is arranged between the heat exchanger and the reactor to maintain a constant pressure differential between inlet and outlet or a constant pressure at the inlet.

This permits a higher pressure and temp. to be maintained in the heat exchanger than in the reactor, with the result that the incrustations of the heat exchanger surfaces on the sludge side are eliminated. 14.5.73 as 324351 (4pp39)

ICIL D15 64017W/39 =DS 2509-649

Oil removal from oil-in-water emulsions - by passage through a fibrous mass contg oleophilic hydrophobic particles

IMPERIAL CHEM INDS LTD 11.10.74-GB-044078 (11.03.74-GB-010687)

*H03 J01 +Q42 (13.09.79) *BE-826-563 B01d-31*

Coalescing material for sepg. oil from an oil-in-water emulsion consists of polymer fibres through which the emulsion flows. The particles having oleophilic and hydrophobic properties are attached to the surface and are partially embedded in the fibres.

The fibres are pref. of a 2-component structure, with an outer section and an inner section, the outer section being composed of a lower melting polymer. The particles may be of silicic acid, coated with a silane. 5.3.75 as 509649 (4pp549)

ANIS D15 61942X/33 =DS 2603-871

Removing anoinic organic impurities from aq. effluents - by precipitation with bis-triaryl-phosphonium salt (BE020876)

ANIC SPA (ANIC-) 03.02.75-IT-019914

*E11 F06 (13.09.79) *DT2603-871 C02c-05/02*

Waste water contg. anionic organic impurities with $\geq$ 1 sulphone gps. e.g. alkylbenzene sulphates purified by treatment with an aq. soln. if bis-triaryl-phosphonium salts (I) and removing the ppte.

Cpds. (I) have the formula $Ar_3P^+\text{-}A\text{-}P^+Ar_3{\cdot}2X^-$ (where Ar is a (substd.) phenyl or α- or β-naphthyl gp.; X^- is the anion of an (in)organic acid and A is a divalent aromatic or arylaliphatic hydrocarbon or $-(CH_2)_n-CO-NH-B-NH-CO-(CH_2)_n-$ where n = 1-4 and B is divalent aliphatic, aromatic or arylaliphatic hydrocarbon; $-(CH_2)_n-O-CO-NH-B-NH-CO-O-(CH_2)_n-$ where n = 2-6; $-(CH_2)_n-O-CO-B-CO-O-(CH_2)_n-$ where n = 2-6 or $-(CH_2)_n-CO-O-B-CO-(CH_2)_n-$ where n = 1-6). Cpd. (I)may be a bis-triphenylphosphonium salt of 1,5-bischloromethyl-2,4-dimethylbenzene. 2.2.76 as 603871 (3pp068)

BALA/ D15 63649A/36 =DS 2708-054

Appts. for automatic control of desalination of electrolyte solns. - in a DC electrodialysis machine, has control circuit connected to power source connected to dialysis machine electrodes

BALAVADSE E M 24.02.77-DT-708054

*J03 +R26 (13.09.79) *DT2708-054 B01d-13/02 +G05d-21*

DC electrodialysis plants are used for the desalination of electrolytic liquids, e.g. the softening of salt water from Artesian wells or the purification of reflux effluent or medicinal fluids. This process is controlled automatically by a current intensity pickup, attached to an adjustable current source. A diluate flow rate pickup is connected to the inlet and outlet of the liq. to be softened. The inputs of a current controller are coupled to the outputs of the current intensity pickup and of the diluate flow rate pickup.

Its output is directed to the control circuit for the adjustable current source. This ensures a greater accuracy both during the starting period and during full operation. 24.2.77 as 708054 (7pp39)

SASA- D15 59447Y/34 =DS 2717-543

Multiple effect evaporator for desalinating seawater - cools energising steam feeding exchangers, preventing incrustation and facilitating gas venting

SASAKURA ENG CO 20.04.76-JA-U49638

*J01 +Q78 (13.09.79) *BE-853-753 B01d-01/04 B01d-03/04 C02b-01/06*

A fluid is distilled by spraying it on horizontal banks of tubes, arranged on top of each other and passed by heating steam at the high temp. The number of tubes in each bank is reduced in the direction of flow of the steam and the steam condensation transmits heat to the sprayed fluid, causing it to evaporate, followed by condensation.

The banks of tubes are passed by the steam in a cross counterflow to the sprayed descending fluid. Before the steam is injected in the banks of tubes, it is cooled through the condensate, formed in one of the upper banks.

This prevents any scale deposition by too high a steam temp. and results in a higher thermal efficiency. 20.4.77 as 717543 (6pp39)

SCHN/ D15 84333A/47 = DS 2721-884

Activated sludge system of sewage treatment - with high-duty basin between buffer basin and oxidation trench

SCHNITZLER E F 14.05.77-DT-721884

*(13.09.79) *DT2721-884 C02c-01/06*

Plant for purifying waste water by the activated sludge process comprises a buffer tank and > 1 oxidn. tank, all with aeration devices, an afterclearing vessel and a means for recycling sludge. The buffer tank is supplied with about five times its volume per hr. and a particle disintegration of BSB_5-value at 10-15%. Between the buffer tank and oxidn. tank is a heavy duty tank with appts. to comminute sludge recycling from the after clearing vessel and sludge from the buffer tank and with an aeration device.

The average time spent in the heavy duty tank is 1-3 hrs. with degradation of 65-70% of the BSB_5 load and an oxygen content of 1-4 mg/b. The average time spent in the oxidn. tanks is 10-20 hrs. with an oxygen content of 0.1-0.3 mg/l and a sludge charge of 0.017-0.034 kg BSB_5 per kg TS. 14.5.77 as 721884 (4pp068)

MAUG ★ D15 68206B/38 ★ DS 2810-241

Water collector from atmospheric air - with solar heat collector and condenser operating in two phases

AUGSBURG NURNBERG AG 09.03.78-DT-810241

J01 +Q42 (13.09.79) B01d-49 B01d-53/02 C01b-05 E03b-03/28

Water is collected from atmospheric air in two phases. In the first, cool moist air is drawn through an adsorber and in the second, a second air stream is passed through the adsorber, heated at every circuit and is split after the absorption of water in the absorber in two side streams One bypasses the condenser and the other passes through it. The two side streams are then immerged again.

This requires only one adsorber and collects as much water as could be collected by many adsorbers in series. The appts. comprises a housing enclosing a solar heat collector, a water adsorbing bed, an air deflector plate and cold storage condenser. The air inlet with the flap is equipped with a fan. 9.3.78 as 810241 (6pp39)

SIEV/ ★ D15 68245B/38 ★ DT 2809-493

Liquid manure utilisation - by enriching with oxygen and feeding to organisms which are used as feed for fish for human consumption

SIEVER H 06.03.78-DT-809493

P14 (D13) (13.09.79) A01k-67

Animal farm wastes, e.g. liquid manure, is utilised continuously by feeding the heated and O_2-enriched manure to male and female gammaridae, and the particles in suspension and bacteria to male and female phyllopodae. The latter are eaten by cyprinodontidae which in turn are food, together with the gammaridae, for fish for human consumption.

This eliminates any environmental pollution and makes a very profitable use of the farm wastes. 6.3.78 as 809493 (11pp39)

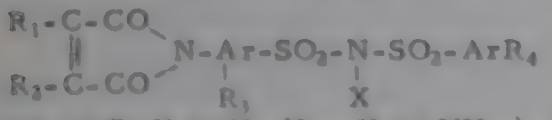
FARB ★ D15 68262B/38 ★ DT 2809-713

Semipermeable membranes based on acrylonitrile copolymer - with maleimido:aryl aryl di:sulphimide; has high water permeability

BAYER AG 07.03.78-DT-809713

A88 J01 (A14) (13.09.79) B01d-13/04 B01d-31

Semi-permeable membranes are based on copolymers from (K) 50-99 wt% acrylonitrile, (II) 1-50 % of > 1 monomer of formula (in which Ar is a benzene or naphthalene gp.



$$\begin{matrix} R_1\text{-}C\text{-}CO \\ \Vert \\ R_2\text{-}C\text{-}CO \end{matrix} \!\!>\! N\text{-}\underset{\displaystyle R_3}{\underset{|}{Ar}}\text{-}SO_2\text{-}\underset{\displaystyle X}{\underset{|}{N}}\text{-}SO_2\text{-}ArR_4$$

R_1 and R_2 are H, CH_3, F or Cl; R_3 and R_4 are H, phenyl, 1-6C alkyl or hydroxyalkyl, Cl or F; X is H, Na, K or NH_4,) and (III) 0.30 (0-15)% copolymerisable monomer(s).

The membranes are usef for reverse osmosis and ultrafiltration. They have better chemical and hydrolysis resistance than cellulose acetate membranes, with reduced susceptibility to degradation by microorganism. They have high water permeability and low separating limit of mol. wt. around 500. 7.3.78 as 809713 (17pp195)

SUND- ★ D15 68280B/38 ★ DT 2810-008

Concrete prodn. waste settling device - with tiltable tank on wheels for pressurised water percolation

SUNDERMEYER FRISCHB 08.03.78-DT-810008

J01 (13.09.79) B01d-21/02 C02c-01

A settling device for granular solids in waste water, e.g. for gravel and sand in the residual water of mobile concrete mixers, consists of a wheeled chassis with a tiltable settling tank. A perforated intermediate bottom is underlain by a compartment to which pressurised water can be introduced.

This effects a precleansing of coarse particles, from the residual water, so that the settling basins need only deal with the finest suspensions and require cleaning less often. 8.3.78 as 810008 (12pp39)

SUMO ★ D15 68362B/38 ★ DT 2908-185

Cellulose fibre-based ion exchanger filter material - contains cellulose-based imino-di:acetic or imino di:propionic acid or salt gps.; used in water treatment, metal ion sepn., etc.

SUMITOMO CHEMICAL KK 06.03.78-JA-025877

A91 J01 (A11) (13.09.79) B01d-15/04 B01j-01/04 C02c-05/08

A new cellulose fibre-based ion exchanger contains functional gps. having formula $\text{-O-CH}_2\text{CH(OH)CH}_2\text{N((CH}_2\text{)-nCOOM)}_2$ (I) (where n = 1 or 2 and M is H, an alkali metal or ammonium cation). Ion exchange capacity is pref. 0.1-1.3 m.equiv./g (calculated w.r.t. Na ion exchange capacity).

The ion exchangers are used as filter materials having selective metal collecting- or separating properties. Uses include water desalination or softening, metal ion sepn and recovery, developers for heavy metal analysis and as ion-adsorbing filter paper.

Reactant, neutralising and washing agent quantities are small, whereby costs of the after-treatment of the waste water obtd. can be kept low. The ion exchanger is white, highly selective even in the presence of alkali or alkaline earth metal ions, and can be regenerated with acid. 2.3.79 as 908185 Add to 2635824 (16pp200)

MAUG D15 68206B/38 = EP ---3-964

Water collector from atmospheric air - with solar heat collector and condenser operating in two phases

AUGSBURG NURNBERG AG 09.03.78-DT-810241

*J01 +Q42 (19.09.79) *DS2810-241 B01d-53/26 C01b-05 +E03b-03/28*

D/S: E(CH, FR, GB, IT).

Water is obtained from atmospheric air by drawing a first stream of cool moist air from the atmosphere and passing it through an absorber contg. a water absorbing medium so that water vapour is given up to the medium, and passing a second air stream through a heat cycle, in which it absorbs heat from a hot body, and then through the adsorber to heat it, and to collect bound water from the water-adsorbing medium. The air is then passed through a condenser where the collected water is condensed, collected and removed, while the second air stream, relieved of its water, is recycled.

Specifically, the second air stream (D) is first passed through the complete cycle, except the condenser (7) i.e. through the heater (4) and the adsorber (5) and at a predetermined point after taking up water, the air stream is split into two parts (D1, D2), the first of which is passed back through the adsorber and the second passes through the condenser.

An increased yield of water is obtd.

2.2.79. as 100305 (27pp396).

(G) ISR: DT2702701; DT2624392; DS-731471; CH-606644; DS-663920.

SCGR ★ D15 68498B/38 ★ EP ---4-217

Bactericidal treatment of polluted media - by addn. of prim. mono:nitro-alcohol for control of bacteria and streptococci

SOC CHIM GRANDE PAROISSE 24.02.78-FR-005291

E16 F09 H01 P34 (D22) (19.09.79) A61l-13 C02b-03/06

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Bactericidal and bacteriostatic treatment of polluted media comprises addn. of pref. 10-100 g/m³ of a prim. mononitroalcohol of formula

$_1R_2R_3R_4$ (I) (where R_1 and R_4 are NO_2 or lower hydroxyalkyl; R_2 and R_3 e lower (hydroxy)alkyl). Pref. (I) is 2-nitro-2-methyl-opan-1-ol, 2-nitro-2-methyl-1,2-propanediol, 2-nitro-ethyl-1,2-propanediol or tris(hydroxymethyl)nitro-ethane.

Claimed uses are in the tert. treatment of urban and dustrial aq. effluents and in the treatment of swimming ols, water wells, oil wells during drilling and recovered illing mud, effluent treatment plant slimes, beet must d paper pulp liquors,etc., contg. bacteria and reptococci. (I) are highly active in the time immediate- following treatment, but are degraded rapidly to non-xic, non-polluting prods.

,2.79. as 400106 (12pp949).

) ISR: FR 1565736; NL 6803252; FR 1565749; FR 2331356; S 3024192.

EUM ★ D15 68531B/38 ★FR 2411-159

ank installation to inject gas into liq. esp. waste water - to be erated via submerged rotor with hollow perforated blades

JEUMONT-SCHNEIDER 06.12.77-FR-036708

(10.08.79) C02c-01/10

he installation is of the type in which liq. in a tank is njected with gas from a submerged rotor near the ase of the tank.

A compressor outside the tank supplies gas to the ollow hub of a rotor having perforated, hollow, helical lades. The rotor has a coaxial shaft extended upwards ut of the tank to be power driven at between about 30 nd 300 r.p.m.. The rotor is enclosed in a cylindrical asing with upward, bell-mouthed inlet and downward, ell-mouthed outlet.

Blade perforations are pref. in the blade face operating at suction pressure during rotation. The casing outlet is pref. connected to a number of radial distribution ducts leading towards the tank periphery. The ducts are pierced throughout their length withoutlet holes.

Used for injecting gas into a liq. esp. for aerating waste water to be purified. Slow speed of rotation allows excellent contacting of liq. with diffused gas. The installation operates silently with its submerged rotor turning smoothly. No mist is sprayed up to pollute the atmos.. 6.12.77 as 036708 (7pp448).

PHIL/ ★ D15 68532B/38 ★FR 2411-160

Activated sludge unit to purify effluent of small community - uses air diffuser with non-choking plastic nozzle

PHILY G 08.12.77-FR-037757

A93 Q42 (10.08.79) C02c-01/10 E03f-05/18 E03f-11

Unit is of the type which has an aeration tank in which oxygenation is effected by diffusion of compressed air. A network of pipes distributes air in the base of the tank. Each distribution pipe has a number of branch pipe stubs. The outer end of each stub is fitted with a removable diffuser nozzle made of synthetic, porous, elastic sheet material, partic. polyester foam.

The surface area of the diffuser nozzle is pref. greater than the cross-sectional area of the pipe stub. In partic. the nozzle is spherical in use and has a sleeve extension which fits on the stub and is secured there by a clamping collar.

The diffuser nozzle does not choke up over very long periods of use. If and when it does, it is very easily removed for backflushing.

Additional diffuser pipe stubs can be added. Air flow through each nozzle is individually adjustable. 8.12.77 as 037757 (9pp448).

SUME D15 08023Y/05 =GB 1552-942

Vinylidene fluoride an tetrafluoroethylene copolymer membranes - prepd. from solns. contg. solvent and nonsolvent for resin

SUMITOMO ELEC IND KK 17.06.76-JA-072063 (17.07.75-JA-088038)

*A88 J01 L03 (A14 A85 A96 J03) (19.09.79) *DT2632-185 C08j-09/28*

A porous material having a fine pore size is produced by (i) prepg. a soln. contg. a resin which is solid at normal temp. and pressures and which comprises PVdF and/or a vinylidene fluoride/tetrafluoroethylene copolymer and ≥1 solvent for the resin and ≥1 non-solvent for the resin; and (ii) removing the solvent(s) and the non-solvent(s) from the soln. by evaporation to cause precipitation of resin particles from the soln., part of the resin precipitated during the evaporation being redissolved or swollen by the solvent(s) to aid bonding of the resin particles.

The materials have improved mechanical strength and superior permeability and separability, esp. being useful for membranes. The membranes are used e.g. for artificial organs, as diaphragms for electrolytic and battery cells, and for the sepn. concn. and recovery of foodstuffs such as proteins and starches. 15.7.76 as 029427 (9pp990)

DRES D15 25485Y/15 =GB 1552-957

Membrane sepn. using rotating bundle - having membrane elements as flat discs rotating in housing

DRESSER INDUSTRIES INC 29.09.75-US-617683

*J01 (19.09.79) *DT2635-460 +B01d-13*

A membrane pack for separating a permeate from a fluid has a pair of membranes lying on opposite faces of a thin carrier, the carrier and membranes having aligned holes and the membranes being sealed to the carrier about the holes to prevent wrinkling.

The carrier is pref. an adhesive impregnated support paper. The carrier and membranes pref. have a central hole and ≥3 other holes spaced from the periphery. In use the packs are pref. stacked and rapidly rotated about the axis of the stack.

Salts can be removed from their solvents and waste water can be purified. 27.7.76 as 031316 (12pp1376)

WORL- D15 50149Y/28 #GB 1553-057

Recovery of precious metal values from waste water - by their bacterial incorporation into organic sludge

WORLD RESOURCES CO 22.11.76-US-743745 (17.03.77-GB-011364)

*M25 (19.09.79) *US4033-763 C22b-05*

Selected metal values which each appear in concn. 0.1-500 ppb together with other metal values which appear in a greater concn., are recovered from water which has been mixed with a bacteria contg. organic material.

The metal values are captured from the water by bacterial imbibing of the values to immobilise and concentrate the values into the organic material. The organic matter is then coagulated and dewatered to separate off the organic matter as a sludge. The dewatered sludge is then burnt off to eliminate the organic matter and form an ash contg. the selected and other metal values. The selected metal values are then recovered from the ash.

The process is esp. used where the selected metal values are precious metals, such as gold, silver and platinum, being recovered from sea water or freshwater lakes and streams. 17.3.77 as 011364 (9pp931)

WORL- D15 50149Y/28 =GB 1553-058

Recovery of precious metal values from waste water - by their bacterial incorporation into organic sludge

WORLD RESOURCES CO 22.11.76-US-743745

*M25 (19.09.79) *US4033-763 C22b-05 C22b-11*

Selected precious metals are recovered from water, which is mixed with organic material (I) supporting active bacteria and contg. other metals, by (a) coagulating and sepg. solids as sludge, (b) dewatering the sludge, (c) mixing with an ore of Cu or Pb, (d) smelting the mixt. of ore and sludge so (I) reduces (part of) the ore to produce a mass of Cu or Pb contg. the selected metals and (e) refining the mass to recover selected precious metals.

The initial water contains 0.1-500 ppb selected precious metals and other metals in a greater concn. Pref. the water is subjected to bacterial digestion before (a). 17.3.77 as 32944/78 Div.ex 1553057 (9pp992)

MONS D15 50222Y/28 =GB 1553-156

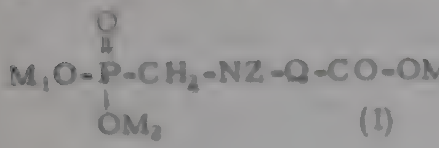
Corrosion inhibitors for metals contacting water systems - comprising phosphono-methyl amino carboxylates and opt. conventional inhibitors

MONSANTO CO 18.06.76-US-697503

*A97 E11 M14 (19.09.79) *US4033-896 C23f-11/16*

Method of inhibiting corrosion of metals in contact with water, comprises maintaining in contact with the water

>1 ppm of a P cpd. of formula (I):



$$M_1O-\underset{\underset{OM_2}{|}}{\overset{\overset{O}{\|}}{P}}-CH_2-NZ-Q-CO-OM_3$$

(I)

or a ≥ 1 ppm. of a mixt. of such cpds.

M_{1-3} are independently H, metal ion ammonium ion or < 10C alkyl ammonium ion. Z is $CH_2PO_3M.M_2$, 1-4C hydroxyalkyl, carboxy -1-4C alkyl or RNR^1R^2. R is 1-10C alkylene or alkenylene. Each of R^1 and R^2 is $CH_2PO_3M_1M_2$, 1-4C hydroxyalkyl or carboxy-1-4C alkyl. Q is 3-15C alkylene, 3-15C alkenylene or alkylene-arylene.

A specific cpd. is 3-bis(phosphonomethyl) aminopropane-1-carboxylic acid. Method is useful in cooling towers, engine jackets, evaporators, etc. 17.6.77 as 025417 (10pp)

BROV ★ D15 68578B/38 ★GB 2015-891

Filtering flocculated drinking or waste water, or non-aq. suspensions - using space filters backwashed when certain pressure drop is obtd. due to suspension particles forming layer

BBC BROWN BOVERI 06.03.78-CH-002376
J01 (19.09.79) B01d-23/24

Suspensions are filtered by using space filters which are backwashed at specific time intervals. The backwashing is initiated whenever a layer of particles begins to form on the filter surface. The formation of the particle layer is pref. determined by the pressure drop produced.

This pressure drop is determined by continuously measuring the actual pressure drop over the whole filter and comparing this with the pressure drop which would develop without the particle layer; or by measuring the pressure profile of the filter at discrete time intervals.

A large capacity is achieved in the space filter and a low consumption of rinsing water is obtd. 2.3.79 as 007463 (6pp976)

ERCO- ★ D15 B/38 ★IT 1031-657

Pig breeding liquid waste purification

ERCOLE MARELLI SPA 11.02.75-IT-020170
(10.05.79) C02c

ENVI- ★ D15 B/38 ★IT 1031-878

Effluent mass aerator

ENVIRONMENTAL PROD 19.02.75-IT-020441
(10.05.79) C02b

MITO ★ D15 68786B/38 ★J5 4100-997

Electrolytic generation of ozone from waste water - by immersing anode, cathode and large and small mesh membranes in waste water and electrolysing

MITSUBISHI HEAVY IND KK 26.01.78-JA-007731
E36 J03 (09.08.79) C01b-13/10 C25b-01/28

The method comprises (i) oppositely positioning an anode and a cathode in water or an aq. soln. received in a vessel, (ii) positioning a large mesh net type membrane and a small mesh type membrane on the surface of the cathode opposite to the anode, in order, to form a double layer membrane, the large mesh type membrane being high in space volume for reception of water, and (iii) carrying out electrolysis at a voltage of 1 9V on the small mesh membrane to generate ozone.

Specifically waste water is received in an electrolytic cell. An anode plate and a cathode plate are immersed in the waste water. A large mesh net type membrane and a small mesh type membrane are secured to the cathode plate. As oxygen is rich in the membrane, ozone is effectively generated by electrolysis of waste water. 26.1.78 as 007731 (5pp51)

NIKL ★ D15 68858B/38 ★J5 4101-769

Aerobic fermentation and cracking of organic solid waste - involves passing oxygen up through the waste filled in closed tank

JAPAN STEEL WORKS 28.01.78-JA-008637
(D22) (10.08.79) C02c-01/02 C02c-03

A water sealing mechanism is provided between an upper edge of a cracking tank and an upper cover to provide a completely closed cracking tank. Organic solid waste such as garbage, livestock faeces, or sewage is introduced from a hopper into the cracking tank.

O_2 is supplied through the bottom of the cracking tank into the organic solid waste so that the waste is fermented and cracked with aerobic microbes contained therein under the O_2 gas. The used O_2 is circulated from the upper of the tank through a gas circulating line to the botto thereof and then it is passed through a gas cooler to ove the condensed water.

The organic waste may be rapidly cracked in a sho time because of addition of oxygen. Generation of ba smell gas and flies may be prevented and the amt. of gen used may be saved because the cracking tank is co pletely closed. 28.1.78 as 008637 (6pp35)

MITV ★ D15 68864B/38 ★J5 410

Sepn. of mixt. of water and oil into oil, water and emulsion la followed by breaking the emulsion by mixing with sawdust or fibrous particles and compression filtering

MITSUBISHI METAL KK 30.01.78-JA-009071
J01 (10.08.79) B01d-17/04

A crude oil is introduced into a settling tank for sepn. an oil layer, an emulsion layer and a water layer. The water-oil emulsion from the tank is passed through a h ing means where it is heated with a steam coil, then le a mixer and sawdust in an amt. of 10 kg per 1 m³ of em sion is simultaneously added as a sepg. agent. The em sion and sawdust are agitated in the mixer to produce a sludge-like mixt.

The mixt. is heated and compressed in a compressi filter to break and dewater the emulsion so as to produ a filtered liq. The filter liq. is passed from the comp -sion filter into a float separator to separate the water and oil, and the floated oil is returned by a pump to the settling tank.

The water-oil emulsion is easily sepd. by only mech ical operations by addn. of fibrous pieces such as sawd paper, cotton or cloth pieces. Process prevents pollut and allows reuse of resources. 30.1.78 as 009071(5pp3

HIEJ ★ D15 68865B/38 ★J5 4101-

Concn. of liq. by reverse osmosis - using closed loop circuit wh includes three way valves for prod. removal and fresh liq. supply

HITACHI PLANT ENG CONST 27.01.78-JA-008523
(10.08.79) B01d-13

A liq. to be concentrated is circulated in a closed loop ci cuit, including a reverse osmosis device, by means of a circulating pump to concentrate it while it is supplied by pressure pump into the closed loop circuit. When the ci culating liq. to be concentrated reaches the desired conc three-way valves are operated to form a conc. liq. taking out line and a fresh liq. introduction line.

Liq. of high concn. may be intermittently taken out from the closed loop circuit by operation of three-way valves, so that abrupt reduction of the flux of the permeable liq. is prevented to avoid the spread of the reverse osmosis device so as to save the equipment and running costs. 27.1 78 as 008523 (6pp35)

NIPE- ★ D15 68867B/38 ★J5 4101-7

Removing slime from water or sewage treatment - by addin hydrogen peroxide, potassium permanganate and neutral salt water passing through appts.

NIPPON PEROXIDE KK 30.01.78-JA-008279
E36 (E37) (10.08.79) C02b-05/02

Slime is removed from appts. used e.g. for water or sew age-treatment by adding H_2O_2,KM_nO_4 and a neutral salt t water passing through the appts.

The amt. of MnO_2 formed by the reaction is small and the H_2O_2 is decomposed gradually giving efficient slime removal. Pref. salts include Na_2SO_4 and KNO_3 esp. used in amt. 0.2-5.0 wt.% on that of H_2O_2. 30.1.78 as 008279 (2pp42)

TOYE ★ D15 68938B/38 ★J5 4101-9

Treating alkali pulp waste liq. - to recover digesting chemica contg. anthraquinone (derivs.) for treating wood chips

TOYO PULP KK 26.01.78-JA-007674
F09 (10.08.79) C02c-49/68 D21c-11/04

After the alkali pulp waste liq. contg. anthraquinone or it derivs. is condensed(sic), the condensed waste liq. is ma into a solid by heating. During this process, the gas of the volatile matter produced in the region of 150-400°C is collected and is cooled to < 100°C. Thus, the anthraquinone or its deriv. is recovered from the gas. Then, e solid is additionally heated to 600-1100°C so that it is urnt into the inorganic melted matter. Thus, the alkali gesting chemicals are recovered.

Both the digesting chemicals and the anthraquinone are ecovered from the waste liquid on alkali pulping process fficiently. 26.1.78 as 007674 (4pp142)

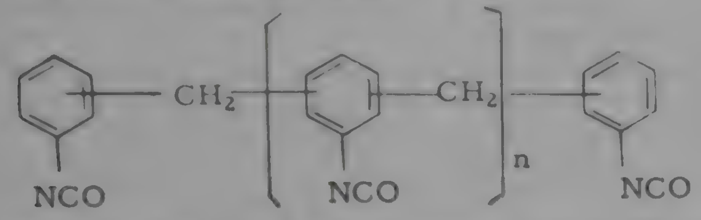
IRA ★ D15 68775B/38 ★J5 4100-979

bsorbent with high selective absorption of metal ions - is prepd. by eacting ethylene glycol-bis (2 aminoethyl-ether)-N,N,N′,N′-tetra:cetic acid with poly:isocyanate

UNITIKA KK 25.01.78-JA-007764

A91 J01 (A25) (09.08.79) B01d-15/04 B01j-01/04

Absorbent is prepd. by reacting 0.1-1.0 mol. of ethylene-glycol-bis (2-aminoethylether)-N,N,N',N'-tetraacetic acid with a polyisocyanate of formula (I) (where n is 0,1,2 or 3) in a polar aprotic solvent dielectric constant > 30 in the presence of a soluble metal salt to obtain a soluble metal ion absorbed resin, and dissolving out the metal ions with mineral acid from the resin.



(I)

The solvent is N,N-dimethylamide, N,N-dimethylacetoamide, N-methyl-2-pyrrolidone, N,N,N',N'-tetramethyl urea, N,N,N',N',N'',N''-hexamethylphophoramide, dimethyl sulphoxide, or 1,1,3,3-tetramethyl urea. The soluble metal ion is Ag^+, Ba^{2+}, Ca^{3+}, Cd^{2+}, Ce^{3+}, Co^{2+}, Cu^{2+}, Dy^{3+}, Er^{2+}, Eu^{3+}, Fe^{2+}, Gd^{2+}, Hg^{2+}, Ho^{2+}, La^{3+}, Lu^{3+}, Mg^{2+}, Mn^{2+}, Nd^{3+}, Ni^{2+}, Pb^{2+}, Pr^{3+}, Sm^{3+}, Sn^{2+}, Sr^{2+}, Tb^{2+}, Tm^{3+}, Y^{3+}, or Zn^{2+}. The mineral acid is hydrochloric acid or sulphuric acid. 25.1.78 as 007764 (6pp51)

SHIN- ★ D15 68953B/38 ★J5 4102-051

Mfg. additive for neutralising acidic waste water - using sludge discharged from mfr. of cement prods., sedimenting to water and flocs dewatering flocs and granulating

SHINETSU ENG KK (NAKA-) 26.01.78-JA-007712

L02 (11.08.79) C02c-03 C02c-05/02

Sludge discharged from mfr. cement products, e.g, asbestos slate plate, asbestos-cement pipe, cement tile, concrete block, etc., is used. The sludge is supplied to a slant plate type sedimentation tank to separate water and flocs. The flocs thus sepd. are dewatered, solidified, and crushed into granules of a grain size of 20-50 mm.

The solidified cement sludge has a compressive strength of 100 kg/cm² 2 weeks after solidification, 170 kg/cm² after 4 weeks, and much the same strength as crushed stone after 2 months. pH of the solidified sludge is nearly neutral 2 months after solidification. The crushed prods. are applicable as landfill and reclamation materials and as aggregate for concrete. 26.1.78 as 007712 (5pp117)

KANK- ★ D15 68954B/38 ★J5 4102-053

Treating waste water contg. hexa:methylene:tetramine - by adjusting to acid pH and then hydrolyzing opt. at elevated temp.

KANKYO ENG KK 26.01.78-JA-006739

A21 E13 (11.08.79) C02c-05/02

In the treatment of waste water contg. hexamethylenetetramine, e.g. from melamine resin industry, urea resin industry, phenol resin industry, foundries, etc., the pH of the waste water is regulated to < 1.5 by addition of inorganic acid, e.g., sulphuric acid, hydrochloric acid, nitric acid, etc., and then hydrolysed at from ambient temp. to > 90°C.

The hydrolysis decomposes hexamethylenetetramine into formaldehyde and ammonia with high efficiency and this greatly reduces COD_{Mn} (chemical oxygen demand of hexamethylenetetramine) by a simplified operation and at lower cost. For example, the COD_{Mn} of waste water can be reduced by approximately 50%. 26.1.78 as 006739 (2pp117)

KANK- ★ D15 68955B/38 ★J5 4102-054

Polluted water treatment e.g. leached water from dumps etc - by adding an iron salt to give ferric hydroxide flocs and solid-liq. sepn. treatment

KANKYO ENG KK 26.01.78-JA-006740

(11.08.79) C02c-05/02

Treatment of polluted water, e.g., leachate from wastes-reclamation and dumping sites, etc., is new. An iron salt, e.g. ferric chloride, ferrous sulphate, etc. is added to leachate discharged from e.g. wastes-reclamation site, to cause the formation of the ferric hydroxide flocs to take place, and then the heated leachate is adjusted to pH 3-5.5 and then subjected to solid-liq. sepn. treatment.

Method is capable not only of effectively removing great many organics and colouring matters present in polluted water by using a very small amt. of coagulant but also of obtaining highly purified treated water opt.with activated carbon treatment by providing smaller scale adsorber than the conventional methods, thus offering an economical and effective means for the treatment of polluted water. 26.1.78 as 006740 (3pp117)

KANK- ★ D15 68956B/38 ★J5 4102-055

Treatment of waste water contg. hexa:methylene tetramine - e.g. from melamine resin mfr., by adding acid for hydrolysis, adding alkali, oxidising in presence of iron salt and adding alkaline cpd.

KANKYO ENG KK 27.01.78-JA-007378

A21 E13 (11.08.79) C02c-05/02

Treatment of waste water, e.g. from melamine-urea-,or phenol resin mfr., comprises first regulating the pH to < 1.5 by the addn. of an acid, e.g. H_2SO_4, HCl, HNO_3 etc. for the performance of hydrolysis whereby hexamethylenetetramine is decomposed into formaldehyde and ammonia.

pH is then regulated to 2-3.5 by the addn. of an alkali, e.g., caustic soda, slaked lime, $CaCO_3$, etc. and then subjected to oxidn. treatment using H_2O_2 in the presence of a Fe(II) or Fe(III) salt. Finally the treated water is regulated in pH to < 4 by an alkaline cpd. (sic) to effect hydrolysis of the Fe salt.

Process removes > 95% of COD_{Mn} and formaldehyde formed in the waste water. 27.1.78 as 007378 (5pp117)

NIGE- ★ D15 68965B/38 ★J5 4102-183

Colorimetric analysis of low concn. hydrogen peroxide soln. - by adding phenolphthalein and cupric sulphate soln. to peroxide sample agitating, standing and determining absorbence at specific wavelength

NIPPON GENSHIRYOKU (TOKE) 30.01.78-JA-008276

E36 J04 R16 (11.08.79) G01n-21/02

H_2O_2 in very dilute soln. is quantitatively analysed by a colorimetric method comprising (1) taking 30 ml. of the H_2O_2-contg. soln., accurately, into a beaker, (2) adding, to the sample soln., 0.3 ml. of 0.004 M phenolphthalein alkali soln. and 0.3 ml. of 0.0004 M cupric sulphate soln. (3) agitating gently, followed by allowing to stand for several minutes, (4) transferring the mixt. into a 50 mm colorimetric cell and determining absorbance of the mixt. at the wavelength of 540 nm, and (5) comparing the resulting absorbance with a previously prepd. calibration curve to determine H_2O_2 concn. in the sample soln.

The method is used for monitoring H_2O_2 concn. in boiler water, etc. The method shows good linearity in the range 0.5-100 ppb and can easily be practised by an automatic on-line monitor system. 30.1.78 as 008276(5pp173)

TEIJ ★ D15 69015B/38 ★J5 4102-291

Permselective membrane prepn., e.g. for water desalination - by reacting di:halo ether cpd. with cpd. contg. amino and opt. imino and/or hydroxyl gps., and crosslinking the obtd. polycondensate

TEIJIN KK 31.01.78-JA-008924

A88 J01 (11.08.79) B01d-13 C08j-07/12

Permselective membranes are prepd. by reacting a dihalide of formula $X\text{-}CH_2.CH(R)\{O.CH_2.CH(R)\}_mX$ (A) (where R is H or methyl, X is halogen and m is an integer of 1 to 10) with amino-, imino- and/or hydroxyl gps. of a cpd. of < 100C contg. > 2 amino gps. and/or cpd. of < 100C contg. ≥ 1 amino gp. and ≥ 1 imino- and/or hydroxyl gps., and crosslinking the resulting membrane using a polyfunctional cpd. which can react with amino-, imino-

and/or hydroxyl gps. remaining in the polycondensated substance.

The semipermeable membrane obtd. exhibits excellent desalting efficiency and permeability to water, and has a good resistance to hydrolysis and compression. 31. 1. 78 as 008924 (7pp96)

GNZE ★ D15 69018B/38 ★J5 4102-294

Reverse osmosis or ultrafiltration of waste water - using sawdust as drying medium, which is then dried for reuse

GUNZE KK 28.12.77-JA-158394

(11.08.79) B01d-13

The conc. water is mixed with sawdust in a mixer to increase the water content of the sawdust by 20-80%. The dust is spread in a dry chamber and dried by heating with sunshine and other heat to a water content of 20%. The dry sawdust is then reused.

The method reduces the amt. of energy required and the amt. of sludge produced. 28. 12. 77 as 158394 (2pp26)

MITU ★ D15 69078B/38 ★J5 4102-390

Partially hydrolysed acrylamide polymer prodn. - adding sodium pyrosulphite to remove ammonia odour and also ammonium thiocyanate, potassium iodide and/or oxalic acid

MITSUBISHI CHEM IND KK 31.01.78-JA-009546

A14 (11.08.79) C08f-08/12

In the prepn. of partially hydrolysed acrylamide type polymers where a water-contg. gel polymer obtd. by polymerising an acrylamide-contg. aq. soln. is granulated and the granules are partially hydrolysed with a caustic alkali or an aq. soln. of an alkali carbonate, followed by drying, the improvement comprises adding to the polymer dried to a water content of $\leqslant 20$ wt.%, 1-15 wt.% of sodium pyrosulphite and 0.5-10 wt.% of $\geqslant 1$ of ammonium thiocyanate, potassium iodide and oxalic acid based on the dried polymer.

Addn. of sodium pyrosulphite alone separately proposed is effective to remove the ammonia odour of the polymer but tends to slightly reduce coagulating ability of the polymer when used as coagulant in tap water. In the invention, this disadvantage can be eliminated. 31. 1. 78 as 009546 (3pp140)

MITU ★ D15 69079B/38 ★J5 4102-391

Partially hydrolysed acrylamide polymers, used as coagulants - prepd. with addn. of sodium di:hydrogen:phosphate or calcium chloride to remove the smell of ammonia

MITSUBISHI CHEM IND KK 31.01.78-JA-009547

A14 (11.08.79) C08f-08/12

In the prepn. of partially hydrolysed acrylamide type polymers useful as coagulants, a water-contg. gel polymer obtd. by polymerising an acrylamide-contg. aq. soln. is granulated and the granules are partially hydrolysed with a caustic alkali or an aq. soln. of an alkali carbonate, followed by drying. The improvement comprises adding, to the polymer dried to a water content of $\leqslant 20$ wt.%, 1-15 wt.% of sodium dihydrogenphosphate and/or calcium chloride based on the dried polymer.

The odour of ammonia remaining in the polymer can easily be removed without reducing the coagulating ability of the polymer. The addn. is generally conducted after completion of the drying, but, of course, be effected during the drying after the water content of the polymer has been reduced to $\leqslant$ 20 wt.%. 31. 1. 78 as 009547(3pp140)

MITU ★ D15 69080B/38 ★J5 4102-392

Partially hydrolysed acrylamide polymers prodn. - adding sodium pyrosulphite to dried polymers to remove ammonia odour

MITSUBISHI CHEM IND KK 31.01.78-JA-009548

A14 (11.08.79) C08f-08/12

In the prepn. of partially hydrolysed acrylamide type polymers useful as coagulant where a water-contg. gel polymer obtd. by polymerising an acrylamide-contg. aq. soln. is granulated and the granules are partially hydrolysed with caustic alkali or aq. soln. of an alkali carbonate, followed by drying, improvement comprises adding, to the polymer dried to a water content of $\leqslant$ 20 wt.%, 1-15 wt.% of sodium pyrosulphite based on the dried polymer.

The addn. is generally conducted after completion of the drying, but, of course, can be effected during the drying after the point when the water content of the polymer is reducted to $\leqslant$ 20 wt.%.Powders of sodium pyrosulphite can be added while stirring the polymer using a rotating drum, etc.

The odour of ammonia remaining in the polymer can easily be removed without reducing the coagulating ability of the polymer. 31. 1. 78 as 009548 (3pp140)

ICIL ★ D15 B/38 ★J5 4103-245

Deionisation of deoxygenation agent-contg. salt water

ICI AUSTRALIA LTD (CSIR) 10.01.78-AU-002991

(14.08.79)

10. 1. 79 as 000765

EBAI ★ D15 69130B/38 ★J5 4103-252

Removal of phosphate from sewage, industrial effluent, etc. - by passing through fluidised phosphate ore in presence of calcium ions

EBARA INFILCO KK 08.01.78-JA-009600

E11 (E36) (14.08.79) C02b-01/23 C02c-05/02

Removal of phosphates, e.g. orthophosphates, polyphosphates and organic phosphates, from liquors, e.g. sewage, polluted water, industrial effluents, comprises passing the liquor through a tower packed with phosphate ore contg. Ca phosphate. The improvement comprises passing the liquor through in the presence of Ca ions, e.g. $CaCl_2$ and $Ca(OH)_2$ while maintaining its pH at 6.0-11.0 under such a flow rate that the phosphate ore is maintained in fluidised state, so that the soluble phosphates in the liquor are deposited on the surface of the phosphate ore in the form of Ca hydroxy apatite crystals $[Ca_5(OH)(PO_4)_3]$.

It is possible to remove phosphates from liquors having high phosphate concn. and it is easy to carry out sepn. and dewatering of the phosphate ore. The amt. of the Ca cpd. (Ca ion) added is in the molar ratio Ca/PO_4 of 1.0 to 5.0 w.r.t. the amt. of soluble phosphates contained in the liquor to be treated. 8. 1. 78 as 009600 (5pp34)

HITB ★ D15 69131B/38 ★J5 4103-254

Treatment of sugar-contg. waste liquor - by anaerobic fermentation with activated sludge to convert the sugars to carbon di:oxide and water

HITACHI CHEMICAL KK 01.02.78-JA-009984

(14.08.79) C02c-01/06

In activated sludge treatment of sugar-contg. waste liquors, e.g. resulted in the prodn. of EtOH by fermentation of carbohydrates, e.g. corn, sugar cane and sweet potato, etc. or in squeezing of fruits, e.g. orange, apple etc. the improvement comprises mixing the liquor to be treated with surplus sludge resulted in the subsequent activated sludge treatment, subjecting the mixed liquor to fermentation under anaerobic state as follows: pH 4-9, water temp. of 30-70 °C, sludge concn. of 500-20,000 ppm, and dissolved oxygen concn. of < 1 ppm, to convert all of the sugars contained to CO_2 and H_2O, and NO_2^-- and NO_3^-- components into N_2 or N_2O gas, resp., cooling the mixed liquor thus treated down to < 30 °C to separate it into a sludge and a liquor, sending the supernatant liquor to an activated sludge vessel to carry-out the activated treatment, so that accumulation and deposition of sugars on the activated sludge is decreased, thereby settlability of the sludge is accelerated and sludge flow-out from settling vessel is prevented. 1. 2. 78 as 009984 (3pp34)

SUGI/ ★ D15 69132B/38 ★J5 4103-255

BOD redn. of and nitrogen component removal from polluted water - using an aeration vessel, pH-adjusting sec. aeration vessel, denitrification vessel and re-aeration vessel

SUGIMOTO T 30.01.78-JA-010203

(14.08.79) C02c-01/17

The system comprises a main aeration vessel where organic matter is decomposed by oxidn. and ammoniacal N is converted to NO_2 and NO_3; a pH-adjusting sec. aeration vessel where the nitrification reaction is accelerated; a denitrification vessel where NO_2 and NO_3 are converted to N_2 under anaerobic conditions; and a reaeration vessel where the denitrificated aq. phase is further aerated.

There is means for recirculating (portion of) the sludge sepd. from the treated water discharged from the reaeration vessel to the main aeration vessel; and means for add g an alkali to the pH-adjusting sec. aeration vessel to intain a weakly alkaline pH. 30. 1. 78 as 010203(4pp34)

AP D15 31959Y/18 =J7 9024-908
ating sludge mixed with metal cpds. - in the waste from metal ting processes
OSAKA PREFECTURE 22.09.75-JA-115314
*M11 (24.08.79) *J52038-472 C01g-37/02 C01g-49/02 +B01j-01 C22b-34/32*

e sludge mixed with metal cpds. including CrIII, FeIII d divalent metal cpds. is treated by adding oxalic acid the sludge to dissolve CrIII and FeIII and pptg. and sepg. valent metal as cpd. insol. in oxalic acid.

Method further comprises adjusting the oxalic acid ln. obtd. to pH 7-11 and pptg. FeIII as hydroxide, further justing pH to 11-14 and pptg. CrIII as hydroxide.

Cr, Fe, Cu, Ni, Zn, etc., are almost completely sepd., d oxalic acid can be recovered as free oxalic acid and -used. 22.9.75 as 115314 B01j-1/00; C01g-37/02; 49/02; 22b-34/32 (24.8.79) OSAKA PREFECTURE (5pp50) 5 2038472)

SAS ★ D15 69230B/38 ★J7 9024-985
pn. of granular adsorbent from magnesium hydroxide contg. urry - involves jetting portion of filtrate against filter tube to event plugging by accumulation of magnesium hydroxide
OSAKA SODA KK 00.00.72-JA-029909 (01.04.70-JA-027696)
E33 J01 P41 (24.08.79) B01d-15 B03b-05

ethod comprises filtering granular adsorbent-contg. lurry using vertical drum filter while jetting a part of the ltrate tangentially against filter tube from nozzles to revent deposition of solid on the filter.

The method prevents plugging of the filtering surface y accumulation of dense deposit of compressible $Mg(OH)_2$ Partic. suitable for treating waste water of mercury process of NaOH mfr. The granular adsorbents are used for dsorbing heavy metals such as Hg, Fe, Cu, Cd, etc. contained in the slurry, and include ion-exchange resin, ctive charcoal, silica gel. zeolite, etc.

The nozzles are so arranged that the filtering surface s uniformly exposed to the jet stream. The filter tube has pore size smaller than the adsorbent particles but arger than slurry particles, and is made of metallic wire or plastics. 1.4.70 as 029909/72 Div ex 27696/70 B01d-15/00; B03b-5/00 (24.8.79) OSAKA SODA KK (3pp8

TOYM D15 74807V/43 =J7 9024-987
Reverse osmosis membrane compsns. - for desalination-based on hydrophilic (and hydrophobic) copolymers
TOYOBO KK 01.04.72-JA-032790
*A94 (A14 A23) (24.08.79) *J48100-380 +B01d-13*

A block or graft copolymer of 20-80 mole % hydrophilic polymer block and hydrophobic polymer block or cryst. hydrophilic polymers block is blended with a homopolymer of the above hydrophilic polymer units, and the blend is formed into a film or a hollow fibre and extd. to remove the hydrophilic homopolymer to give a semipermeable membrane or hollow fibre.

In an example, acrylamide (I) was graft copolymd. onto poly-ε-caprolactam and the graft copolymer was blended with polyacrylamide (II) to give a blend contg. 1 mole % (based on total monomer units) (I) units. The blend was extruded into a film which was biaxially stretched, extd. with warm water to give a 0.05mm film. The film was used to desalinate 2.1% aq. NaCl at 51kg/cm^2 gage. The salt rejection of the operation was 96.1% and the water permeation was 760 l/m^2-day. Poly(acrylic acid) and poly (1-vinyl-2-pyrrolidinone) were also used. 1.4.72 as 032790B01d-13/00 (24.8.79) TOYOBO CO.LTD (7pp) (J4 8100380)

KAWA/ D15 18182V/10 =J7 9025-342
Spreading activated coal on sea surface - to adsorb plankton and prevent red tide
KAWAZOE A 04.08.71-JA-058862
*(27.08.79) *J48024-979 +C02b-09*

Red tide is prevented by spreading low-grade coal activated by acid and ground to 50-200 mesh on the sea surface. The activated coal adsorbs plankton and sinks. 4.8.71 as 058862 C02b-9/00 (27.8.79) KAWAZOE, A. (2pp) (J4 8024979)

HITA D15 72803X/39 =J7 9025-344
Rapid biological oxidn of organic waste liquor - using controlled oxygen transfer rate aeration depending on BOD value
HITACHI KK 07.02.75-JA-015398
*R26 (27.08.79) *J51090-766 C02c-01/06*

Treatment of an organic waste liquor involving introducing it and recycled sludge into an aerating vessel (in which aeration is carried out with oxygen supplied then introducing liquor from the aerating vessel into a settling vessel to separate it into water and sludge, is improved by carrying out the aeration at oxygen transfer rate (in the aerating vessel) of 20-30m MO_2/l.hr. for B.O.D. of 100 to 1000 ppm. and at 30-65 m MO_2/l. hr. for B.O.D. of >1,000 ppm.

An activated sludge exhibiting rapid organic matter-oxidising rate and excellent settlability and separatability is obtd. thus it is possible to carry out rapid biological oxidn. with high load. 7.2.75 as 015398 C02c-1/06 (27.8.79) HITACHI KK (6pp) (J5 1090766)

NIPC D15 79869X/43 =J7 9025-512
Insolubilisation of hexavalent chromium in chromic acid prodn. waste - by calcination with mixt. contg. carbonaceous reductant, silicate and barium material
NIPPON CHEM IND KK 02.11.73-JA-122876
*E31 (28.08.79) *J50073-897 +B01j-01 C02c-03 C04b-31/02*

Water-soluble chromates in the residue from alkali chromate extn. with water are insolublised by calcination with a mixt. contg. carbonaceous reductants, silicic acid or silicate-contg. materials, and Ba-contg. materials.

In an example, an alkali chromate-extn. residue 10, shale (silicate-contg. material) 50, petroleum coke (carbonaceous reductant) 5, and black ash (ba-contg. material) 3 parts were mixed, ground, granulated, and dried. The granules were calcined at 1140° for 15 min.in a furnace under an atmos. of N 950 and O 50 ml/min. The calcined granules were cooled to 400° in N and then to room temp. in air. The water-sol. hexavalent Cr content was 0.58 and 24.8 ppm for the granules treated with and without adding black ash, resp. 2.11.73 as 122876 B01j-1/00, C02c-3/00, C04b-31/02 (28.8.79) NIPPON CHEM.IND.KK (4pp) (J5 0073897)

HOKP D15 62889W/38 =J7 9025-513
Removal of impurities from waste water by adsorption - by successive contact with amphoteric ion exchange resin and activated carbon
HOKUETSU PAPER MILL KK 24.05.73-JA-058373
*A91 (28.08.79) *J50008-368 +B01d-15 C02b-01/14 C02c-05/02 C13d-03/12*

Waste water is purified by successively contacting with an amphoteric ion exchange resin and activated carbon. The impurity-absorbed activated carbon is regenerated by treating with an alkali soln. and the resulting alkali soln. is then used for regeneration of the used amphoteric ion exchange resin.

In an example, 40% aq. Na glutamate soln. (absorbance 2.5) was passed successively through an amphoteric ion exchange resin-packed column and an activated carbon-packed column at 1 m/sec. The resulting soln. had absorbance <0.04. For regeneration of the ion exchange resin and activated carbon, 4% NaOH was used. 24.5.73 as 058373 B01d-15/00; C02b-1/14; C02c-5/02; C13d-3/12 (28.8.79) HOKUETSU PAPER MILL CARB.(4pp)(J5 0008368)

EBAI D15 38587Y/22 =J7 9025-516
Phosphate removal from waste water - using powdered bone charcoal
EBARA INFILCO KK (EBAR) 23.01.74-JA-010002
*(28.08.79) *J50104-184 +B01d-15 C02b-01/14 C02c-05/02*

Phosphates in waste water are readily removed by treatment with bone charcoal at pH>6.

In an example, a waste water contg. 10ppm orthophosphate was mixed with 6000 ppm. powdered bone charcoal and stirred for 2 hrs. The mixt. was filtered and the filtrate contained 0.08ppm orthophosphates. When the same waste water was treated with activated C, the filtrate contained 1.39ppm. orthophosphates. 23.1.74 as 010002 B01d-15/00; C02b-1/14; C02c-5/02 (28.8.79) EBARA INFILCO KK (5pp) (J5 0104184)

NPIP= ★ D15 69428B/38 ★SU -637-642
Determn. of dissolved oxygen in water sample - is based on change in pH value of freezing in open/end vessel, used in soil aq. extract tests
N BR PIPE MAINS CON 01.03.77-SU-458407
E36 J04 R16 (15.12.78) G01n-07 G01n-25/14 G01n-31/22

Dissoved oxygen is water sample, e.g. aq. soil extract, is estimated quantitatively by freezing test sample in an open vessel and measuring pH value difference using pH values before and after freezing.

The freezing is conducted from the open end of the sample container. The method can be used for the determination of oxygen content of soil water in permafrost regions using e.g. paper pH indicator.

Gusev, V.P., Pritula, V.V., Bul.46/15.12.78.1.3.77. as 458407(2pp938).

KHER= ★ D15 69461B/38 ★SU -638-309
Compsn. for flushing dung canals in animal husbandry farms - contg. ammonium sulphate and water to improve flotation of dung and canal cleaning
KHERSON AGRIC INST 12.07.77-SU-507976
*E35 P14 (25.12.78) A01k-01/**

Aq. compsn. for flushing dung canals in animal husbandry farms contains 34-42 wt. % of $(NH_4)_2SO_4$ and 58-66 wt. % of water. In this medium dung floats for a long time so that its hydraulic transportation is facilitated, and the labour required for the cleaning of the dung canals is reduced.

Arnautov, V.I., Ivanov, V.A., Stambulzhi, D.I., Bul.47/25.12.78.12.7.77.as507976(2pp70).

HYDR= ★ D15 69477B/38 ★SU -638-346
Fine cleaning filter for removing petroleum products from water - has meshes with granular filter material and vertical screens parallel to water flow
HYDROTECH RES INST 02.08.76-SU-392520
J01 (27.12.78) B01d-25/06 B01d-29/24

Fine-cleaning filter for the underlying water in ships, etc. to remove mechanical impurities and petroleum products, comprises a body with pipes to admit the dirty and regenerating waters, and withdraw the purified water and the petroleum products. Inside the body are mesh filter elements and filter charges made from granular material, installed horizontally one above the other. Productivity of the filter is increased and the cleaning quality is raised by installing a group of vertical screens, disposed between thefilter elemen ts and the filter material charges, and parallel to the flow of water being purified.

Bakhilin, B.F., Sobkalov, P.F., Bul.47/25.12.78. 2.8.76.as392520(2pp29).

FEIZ/ ★ D15 69484B/38 ★SU -638-355
Ion-exchange filter prodn. - for water desalination, by regeneration of spent resin using flow of sea or salt water which loosens cationite charge
FEIZIEV G K 06.06.77-SU-491996
(26.12.78) B01j-01/09 C02b-01/16

Method for manufacturing ion-exchange filters, used for desalinating water by regeneration, involves loosening of the filter materials by the water. The process is improved and reduced in cost, with the guarantee of partial regeneration of the ion-exchange resins during the loosening process and reduction in the flow-rate of the reagents during regeneration, by carrying out the loosening operation with sea or salt water.

Feiziev, G.K., Bul.47/25.12.78.6.6.77.as491996(2pp29).

MOSV= ★ D15 69485B/38 ★SU -638-356
Waste water purificn. sorbent compsn. - contg. synthetic granulated material and heavy hydrocarbon mixt. to improve mechanical impurities removal
MOSVODOKANALNIIPROE 07.10.76-SU-410714
J01 (26.12.78) B01j-01/22 C02c-05/02

A filter for removing suspended impurities in effluent is made from gran. synthetic bodies. Heavy hydrocarbons are added to improve its efficiency. The filter comprises (wt. %): synthetic granulated material 90-99, heavy hydrocarbons 1-10.

[illegible]
7.10.76.as410714(2pp8).

LENI= ★ D15 69552B/38 ★SU -638-5
Purifying bilge-ballast water contg. petroleum - using tank fitte with screens forming channels filled with carbon as coalescin material
LENINSKAYA KUZNITSA 01.10.74-SU-065001
H03 Q24 (28.12.78) B01d-17/02 B63b-13

Shipboard equipment for removing petroleum from bilge-ballast water, comprises a sealed-closed cylindrical tan the inner space of which is divided into primary and secondary settling zones using a coaxial cylindrical screen around which is concentrically placed an extra screen. Between the two an annular channel is formed and is filled with coalescing material. There is an inlet for the liquid from the primary zone and an exit into the secondary zone. The tank has an inlet pipe, pipes for removing the clean water, and pipes to take away the petroleum products in each settling zone. The degree of purification of the water and the productivity are increased by building two cylindrical overflow partitions concentrically in the tank. One of these is in the space between the extra screen and the tank wall forming annular primary lowerin and raising channels to feed the liquid to the primary settling zone. The lowering channel is filled with coalescing material. The two channels are related in size by virtue of their diameters.

Buntsis, L.S., Sopryazhinskii, V.M., Buneev, V.A., et al Bul.47/25.12.78.1.10.74.as065001(3pp29).

AUCO= ★ D15 69558B/38 ★SU -638-54
Activated clay mfr. for waste water, gas etc. purificn. - usin two/stage treatment with hydrochloric acid before washing wit water, to increase sorption capacity
AS UKR COLL CHEM 28.09.73-SU-963908
J01 (28.12.78) C01b-33/30

The prepn. of activated clay of high adsorption capacity (e.g. for cleaning oil, waste water, gas) is based on two-stage treatment with HCl before washing with water.

The granules are treated with 5-9% HCl and 15-30% HCl respectively for 1-2 hrs. before washing with hot water to give washing water pH 1.5-2.

The waste water from the final stage is mixed with water from the 2nd stage to give soln. for the 1st stage.

Kovzun, I.G., Martsin, I.I., Bul.47/25.12.78.28.9.73. as963908(2pp114).

ZAMB/ ★ D15 69563B/38 ★SU -638-549
Metal plating industry waste water purificn. - includes filtration anc specified treatment with anion and cation exchangers
ZAMBROVSKAYA E V 21.04.76-SU-349297
A91 M11 (25.12.78) C02c-05/08

Plating industry aq. effluent is purified by filtration and passage through a strongly acid H-type cationite, a weakly basic OH-type anionite and a strongly basic OH-type anionite.

Purificn. rate is improved at reduced cost, with an extended service life if the strongly based anionite is protected from oxidation.

The cationite, weakly basic anionite(macro-porous vinylpyridine compound) and strongly basic anionite, are used in the vol. ratio 42-52:16-26:27-37.

Zambrovskaya, E.V., Medvedev, I.N., Pashkov, A.B., et al Bul.47/25.12.78.21.4.76.as349297(2pp835).

PAPE= ★ D15 69661B/38 ★SU -638-654
Spent sulphite liquor processing - includes sepn. of high molecular organic fraction by electrodialysis and thermal treatment, for use with waste water purificn. etc.
PAPER RES INST (MEAT=) 29.07.77-SU-511541
F09 J03 (25.12.78) C25b-01/20 D21c-11

In the process claimed in Parent Patent 506675 the spent sulphite liquors are treated by electro-dialysis to recover a regenerated digestion liquor and high mol.wt. and low mol.wt. organic fractions.

The process is improved if the high mol. wt. fraction is heated at 50-75°C to a dryness of 90-99%.

The method improves its capacity of the prod. for use as a flocculating agent in the removal of fats and proteins from aq. effluent streams etc.

Mazitov, L.A., Kuznetsova, G.N., Stepanova, O.A., Bul.47/25.12.78.29.7.77.as511541 Add to 506675(2pp314).

SI ★ D15 69779B/38 ★US 4167-479
rificn. of waste waters - by simultaneous chemical and biological
action using minerals contg. surface microorganisms
BESIK F 24.03.78-US-889880 (08.10.76-US-730815)
(11.09.79) C02c-01/04

urification process is described for the removal of bio-
egradable suspended and dissolved organic solids, N-
pds., and phosphates from contaminated waters by
imultaneous biological and chemical reactions at pH 8.

One or more finely divided minerals (I) (particle size
50 mesh US Standard Screen) are added infrequently to
ive (I) concn. 10-200 g/l; in the reactor a mixed micro-
ial population present in the waste waters is retained
nd grown on the surfaces of retained (I). Using forced
ir the contaminated H_2O, (I), and microorganisms (II)
re circulated through the reactor system which consists
f ≮2 zones in which biological oxidn., biological nitri-
ication, and biological denitrification each occur simul-
aneously with the chemical reactions in the system, and
n which the concn. of free metal ions of (I) is at the (I)
olubility levels.

The circulation involves passing the H_2O downwards
hrough zone 1 to contact it with (I)-(II), while the dis-
solved O_2 concn. in the zone's upstream region is kept at
1-2 mg/l (to support oxidn. of biodegradable solids to
CO_2, and oxidn. of N-cpds. to nitrite and nitrate), and contact time is controlled so that the biological reactions reduce the dissolved O_2 concn. in the downstream region to < 1 mg/l to induce biological denitrification. Some of the H_2O and (I)-(II) is passed upwards through zone 2 (sludge settling zone) where the biological denitrification (for reducing nitrite and nitrate concn.) is contd. to reduce dissolved O_2 concn. to < 0.5mg/l. The upward rate of flow of H_2O in zone 2 is controlled to provide a quiescent region which allows most of the active (I)-(II) to separate from the H_2O prior to discharge. Simultaneously in zones 1 and 2 most of the phosphate ions present are pptd. by reaction with the metal ions dissociated from (I) at pH 6-8. The reactor effluent from the quiescent region of zone 2 which contains suspended solids is transferred to a reactor-clarifier which has 2 vertical chambers (2nd chamber connected to the lower end of the 1st chamber). Liq. is passed downwards through the 1st chamber, and then upwards through the 2nd chamber by withdrawing and aerating a portion of active (I)-(II) from the 2nd chamber and returning it to the upstream end of the 1st chamber so that the dissolved O_2 concn. in the 1st chamber is ca.1mg/l. The upward flow in the 2nd chamber is sufficient to develop a fluidised bed of (I)-(II) from which the (I)-(II) withdrawal is made. The biological and chemical reactions are completed in the 2 chambers, suspended solids are sepd., and clarified H_2O is discharged.

(I) have surfaces which attract (II) and adsorb organic cpds. and phosphate; are non-toxic to (II); have limited solubility in the waste H_2O; and are suitably bauxite, cerussite, clinoptilolite, corundum, diaspore, gibbsite, halloysite, hematite, kyanite, millerite, or mixts. 24.3.78 as 889880 (14pp478).

MACH/ D15 38786A/22 =US 4167-480
Water desalination system - passing water through magnetic field upstream of semipermeable membrane of reverse osmosis hyper filter (OE 15.2.78)
MACH G 23.11.76-OE-008692
*(11.09.79) *DT2750-783 +B01d-13*

Water is desalinated by reverse osmosis through a semipermeable membrane after passing through a magnetic field to reduce clogging of membrane pores. The water is pref. first filtered, then passed at, at least, 0.5 m/s through a transverse magnetic field and without further filtering to the membrane.

The salt-enriched discharge stream is pref. throttled. The apparatus is claimed. Use of the magnetic field can extend operating life from two months to several years. 17.11.77 as 852532 (5pp1358).

LEUV- D15 76124X/41 =US 4167-481
Removal of (heavy) metals from aqs. solns - by treatment with an ion exchanger in the presence of a polyamine (BE170976)
LEUVEN RES & DEV 19.03.75-NL-003293
*J01 (11.09.79) *DT2610-281 B01d-15/04 C02b-01/16 C02c-05/02*

Metals are removed from an aq. soln. contg. ions of ≥ 1 dissolved metal which is capable of forming stable cationic complexes with polyamines, by adding a polyamine to the soln. in ≥ equimolar amts. w.r.t. the metal to form a stable cationic complex.

The soln. of the first step is then contacted with a cation exchanger to adsorb the complex from the soln; the cation exchanger is then sepd. from the aq. soln. The polyamine is ethylenediamine, propylenediamine, triaminotriethylamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine or tetra-2-aminoethylethylenediamine. The cation exchanger is a synthetic or natural tectosilicate or phyllosilicate in amt. 3-30 gms. of cation exchanger per gm. of metal ion to be removed.

The process is esp. used to remove metals from waste water which are toxic or detrimental to the environment, such as Hg, Cd, Cu, Zn, Ag or Ni. 22.7.77 as 818060 (+10.3.76-US-665522) (6pp931).

NUCL- ★ D15 69785B/38 ★US 4167-491
Article for radioactive waste transportation and storage - has a solid body of polymerised urea formaldehyde resin
NUCLEAR ENGG CO 07.06.76-US-693419 (24.01.72-US-220449)
A81 K07 (A21) (11.09.79) G21f-09/16

An article for safe transportation and storage of radioactive waste material contg. free water comprises a solid body of polymerised urea-formaldehyde resin in which water and the radioactive components of the waste material are distributed in controlled proportions to provide a desired low hazard radiation classification of the body. Pref. the body also includes a non-radioactive filler for further increasing the volume of the body so as to act as a shield and alternate radiation levels from the body. The body may be encased in a disposable protective container.

The waste material is esp. contaminated water from the cooling loop of an atomic reactor (which usually contains radioactive Ni and Co isotope) and the article is of relatively light wt. to facilitate shipping. The parent patent (18042Y/10) described the prodn. of the article. 7.6.76 as 693419 Div. ex 4010108 (+29.11.73-US-420008) (5pp990).

ATLA- ★ D15 69800B/38 ★US 4167-521
Removing nitroglycerin from dil. aq. solns. - by extn. into ethylene glycol di:nitrate
ATLAS POWDER CO 24.04.78-US-899261
E16 K04 (11.09.79) B01d-03/10 C07c-77/02

Sepn. of nitroglycerin (I) from its aq. soln. comprises extracting (I) into ethylene glycol dinitrate (II) and separating the phases. Pref. vol. ratio of (II) phase to aq. soln. of (I) is 1:500-1:20. The aq. residue may then be distd. at 50-200°F and subatmos. pressure to separate any (II) dissolved in the aq. phase.

Process is used for sepn. of residual nitrated esters of polyols (including (I), (II) and propylene glycol dinitrate) from wash and process waters from explosive plants, thus lowering the COD of the effluent and making it suitable for discharge. 24.4.78 as 899261 (6pp949).

MITP D15 34317X/19 =US 4167-551
Ion exchange membranes of powdered resin - in polyolefine matrix, treated with alkali metal or ammonium salt solns.
MITSUBISHI PETROCH KK 25.02.75-JA-022460 (21.10.74-JA-120330)
*A91 J01 +P42 (11.09.79) *DT2546-911 C08j-05/22*

A heterogeneous ion exchange membrane is prepd. having a high ion transport number in the presence of a high ion concn. by mixing 2-8wt. pts. of a finely powdered ion exchange resin with 2-8wt. pts. of a crystalline polyolefin resin.

The resultant mixt. is then formed into a membrane-shaped article and treated with an aq. soln. of a salt component at ≥ 80°C for ≥ 10 mins. The salt used is that of an alkali metal or ammonium salt, and the concn. of the salt component in aq. soln. is 17wt.% - saturation.

Pref. 4-7wt. pts. of the polyolefin resin are mixed with 3-6wt. pts. of the ion exchange resin. The salt concn. is 23wt.% - saturation or a satd. soln.

The membrane prepd. has excellent electrochemical properties in an aq. soln. of high ion concn. without the flexibility and the mechanical strength of the membrane being deteriorated. 15. 7. 77 as 816199 (+8. 10. 75-US-620852) (7pp931).

GOLD/ ★ D15 69868B/38 ★ZA 7706-342
Combined processing of solid and liq. waste - includes prodn. and dewatering of low solids content sludge
GOLDBERGER-CROSS H 25.10.77-ZA-006342
(25.04.79) C02c-01

RICE/ ★ D15 69887B/38 ★ZA 7802-234
Water treatment process - by adding an iodide and multivalent metal salt(s)
RICE D M 19.04.78-ZA-002234
(19.04.79) C02b

KARS/ ★ D15 B/38 ★ZA 7802-840
Water purificn. - by direct contact with outside of tube emitting UV radiation
KARSTEL C J 18.05.78-ZA-002840
(29.06.79) C02b

A method of purifying water comprises passing the water to be purified through a housing in which it is in direct contact with the outside of a tube which is adapted to emit ultra violet radiation. 18. 5. 78 as 002840 (8pp)

PATE- ★ D15 69896B/38 ★ZA 7803-49
Water clarifier - with decanting means to remove clarified water and a weir arrangement to remove excess floc to form sludge
PATERSON CANDY INT 13.09.77-GB-038064
(21.05.79) C02b C02c

PATE- ★ D15 69900B/38 ★ZA 7803-617
Flotation clarification process - includes pre-saturating or super-saturating and mixing with fine gas bubbles
PATERSON CANDY INT 13.07.77-GB-029385
(25.05.79) B01d

BIWA- ★ D15 B/38 ★ZA 7804-650
Water treatment and storage unit - comprises a tank supported by a column consisting of superimposed settling and filtration tanks
BIWATER SHELLABEAR 04.05.78-GB-017717
(04.07.79) C02b C02c

The water treatment and storage unit comprises a water tank supported by a column. The column consists of superimposed settling and filtration tanks. 16.8. 78 as 004650 (13pp)

See Also

D16 EP --4094 D16 SU 637428

D16 : FERMENTATION INDUSTRY

BIOR- ★ D16 68127B/38 ★BE -874-791
Recovering di:basic acids from fermentation broth - by heating at specified temp. to increase crystal size
BIO RESEARCH CENTER 15.03.78-JA-029411
E17 (13.09.79) B01d C12d

The fermentation broth contg. one or more 10-18C dibasic fatty acids is heated at above 50°C and below pH4 to make the dibasic acid crystals grow and then the crystals are sepd. from the broth. The process is applied to the prepn of dicarboxylic acids from hydrocarbons. It enables easy sepn of the products with less water in the filter cake after sepn.

Pref. heating is at 60-90°C for 2 hrs or more to give acicular crystals or above 90°C for 1 hr or more to form plates. The pref times are 8-30 hrs at 60-90°C and 3-24 hrs at above 90°C, esp. above 100°C. The unreacted hydrocarbons are pref. first sepd and then the cells under strongly alkaline conditions followed by adjusting the pH of the sepd soln to below 4. 13.3.79 as 874791 (11pp597)

MILE ★ D16 68167B/38 ★BE -876-083
Formed bacterial cell aggregates of improved durability - prepd. by addn. of previously-produced, dried, finely-divided bacterial cell aggregate to the cell aggregate produced before shaping
MILES LABORATORIES INC 11.09.78-US-941152
A96 B04 (03.09.79) C12b

Process for improving the durability (harness) of formed bacterial cell aggregates comprises addition of a previously-produced, dried, finely-divided bacterial cell aggregate to the bacterial cell aggregate after its formation but before it is formed (shaped). Used to treat bacterial cells involved in enzymatic reactions e.g. conversion of glucose (dextrose) to fructose (levulose) using glucose-isomerase in Streptomyces alivaceus cells.

The finely-divided, dried bacterial cell aggregates pref have particle dia of < 0.71 mm. They are added to the bacterial cell aggregate in quantities of 5-70 wt%, pref-about 30 wt%, based on the total weight of solids in the mixture.

The bacterial cell aggregate may be formed by contacting the mass of bacterial cells with a cross-linked reaction product between (1) glutaraldehyde, cyanuric halide and their mixtures and (2) a water-soluble cationic polymer obtained by polymerisation of a epihalohydrin with an alkylene-polyamine. 7.5.79 as 876083 (23pp395)

PHAR- ★ D16 68185B/38 ★CA 1061-730
Sterile culture media prodn. in unit doses - with increased amt. of certain components and sterilisation by irradiation
PHARMA-MEDICA SCAND 23.11.76-CA-266368
(04.09.79) C12b-03/16 C12k-03

Unit doses of sterile culture media are made by preparing a conventional medium contg. increased amts of ≥1 ingredient, then irradiating to give a prod. with quality equal to that of conventional media for microbial growth. Pref. irradiation is with 2.2-2.8 Megarads γ-rays. The pH of the medium is pref. increased before irradiation so that after irradiation it is 6.5-8.0.

The media can now be prepd. under non-sterile conditions and sterilised after packaging. Increasing the amts. of certain components overcomes the deleterious effects of irradiation. 23.11.76 as 266368 (20pp1251)

SANO ★ D16 68199B/38 ★CH -612-848
Influenza virus immunogenic components isolation - for vaccine production, by selective solubilisation of haemagglutinin and neuraminidase with cationic detergent
SANDOZ AG 09.01.75-CH-000229
B04 (31.08.79) A61k-39/12

Process for the isolation of haemagglutinin and neuraminidase components from an influenza virus, these components are selectively solubilised by treating an influenza virus in aqueous solution with a cationic detergent, and separating the resulting solubilised components from the remaining sub-viral particles.

Used for isolation of immunogenic components of influenza virus for production of vaccines with reduced side-effects. The vaccines obtained give longer immunity against influenza infections than conventional vaccines. Pref. influenza viruses are those of types A, A_1, A_2 and B or mixtures of ≥ 2 of these types. 9.1.75 as 000229 Add. to 589453 (6pp280)

5- ★ D16 68238B/38 ★DT 2809-344

post producing device - with travelling grates moving in hot st air counterflow

GEB WEISS KG 03.03.78-DT-809344

13.09.79) C05f-07 C05f-09

ganic wastes and/or sewage sludge is turned into comp- in several composting chambers in an enclosed housing. velling grates, arranged above each other, take the erial in a thin layer in a slow zigzag path in counter- with air through the composting device in ten days.
This device can process large amounts of composting material. It consists of simple mechanical parts operates troublefree over long periods. 3.3.78 as 344 (20pp39)

RA- ★ D16 68316B/38 ★DT 2810-639

)-3-Hydroxybutyric acid prodn. by oxidative fermentation - of ly-3-hydroxybutyric acid producing microorganism mutants e.g. aligenes eutrophus 24408 or 21646 (DSM)

GES FUR STRAHLEN 11.03.78-DT-810639

B05 (13.09.79) C12d-01/02

e microorganisms used are mutants of general forming ly-3-hydroxybutyric acid (PHBA) which have lost the pability of producing PHBA, which accumulate (I) in cells and release it, and which are incapable of subquently utilizing the relased (I).

The culture is carried out under submerged conditions an aqueous medium contg. ammonium, magnesium, alcium, iron, phosphate, sulphate and usual trace elemt ions. As carbon source the medium contains one or ore organic 3-6 C 0-contg. cpds. with C-C single bonds d carrying 2-6 functional 0-contg. groups; alternatively $CO_2/H_2/O_2$ gas mixture flows through the medium. The mmonium, magnesium, sulphate, phosphate and iron oncentrations are reduced to a growth-limiting oxygen artial pressure, but the carbon source is present in excss.

(I) is useful for biochemical, organic chemical, physio logical, pharmaneutical and medicinal purposes. The rocess gives (I) in yields an order of magnitude or higher an known processes. 11.3.78 as 810639 (10pp280)

MEIJ ★ D16 68342B/38 ★DT 2904-628

ntibiotic antitumour derivs. of substance SF-1739 - are less toxic han substance SF-1739 and prepd. e.g. by acid treatment of etabolite from culturing Streptomyces griseoplanus strain

MEIJI SEIKA KAISHA 04.09.78-JA-107492 (08.02.78-JA-013122)

B04 (13.09.79) A61k-35/74 C07g-11 C12d-09/16 C12k-03

Substances SF-2739.HP, SF-7739 HP-C, SF-1739 HP-F, SF-1739 HP-3 and SF-1739 HP-5 are novel derivatives of substance SF-1739, and have the following properties. (1) All substances are blackish purple in colour; (2) All have characteristic UV absorption spectra, I-R spectra, mnr spectra and optical rotations dispersions curves. (3) All are readily soluble in water and methanol, soluble in ethoyl acetate and less soluble in hexane, etc. 7.2.79 as 904628 (+16.8.78 - JA - 099144) (59pp1401)

MITK ★ D16 68364B/38 ★DT 2908-241

Bacterial cell extracts from Mycobacterium species - with antitumour and adjuvant activities

MITSUI TOATSU CHEM INC 10.03.78-JA-026519

B04 (13.09.79) A61k-35/74 A61k-39/02 C12k-03

Bacterial cell extracts (A) comprise a ppte. made by first preparing an aq. cell-free extract of lysed Mycobacterium cells, then adding a flocculating agent (I).

Pref. the cells are M. bovis or M. smegmatis and (I) is esp. a polyvalent metal salt or a water-soluble basic antibiotic (or its salt) specifically streptomycin sulphate. The ppte. is collected, suspended in water or buffer, then dialysed to remove (I) and freeze-dried.

(A) are useful in antitumour and adjuvant preparations. They are effective against solid and as cites tumours and inhibit metastasis, and as adjuvants are at least as effective as dead BCG cells. They have greater activity, lower toxicity and cause fewer side effects than live Mycobacterium cells, without danger of infection. They are prepd. reproducibly by a simple process and rarely cause allergic reactions in animals sensitised with tuberculin. 2.3.79 as 908241 (33pp1251)

SHIO ★ D16 68393B/38 ★DT 2908-848

Antibacterial antibiotic cephamycin C microbiological prodn. - by cultivation of Streptomyces todorominensis, also useful as intermediate for further cephalosporin(s)

SHIONOGI KK 07.03.78-JA-026252

B02 (13.09.79) C12d-09/16

In the microbiological prodn. of cephamycin C (I), a (I)-forming strain of Streptomyces todorominensis ATCC 31489 is cultivated in an aqueous nutrient medium at ca 20-40°C for ca 20-100 hrs. under aerobic or submerged conditions, and the accumulted antibiotic is isolated from the fermentation broth.

(I) is a cephalosporin group antibiotic with antimicrobial activity against Gram-positive and Gram-negative bacteria, and is useful in human and veterinary medicine. It is also useful as an intermediate for cefoxitin and its analogues. 7.3.79 as 908848 (15pp289)

BURK/ ★ D16 68454B/38 ★EP ---4-094

Composting material depository - straddled by bridges carrying conveyors for spreading, loosening and aerating

BURKLIN W 03.05.78-DT-819360 (13.03.78-DT-810842)

(D15) (19.09.79) C05f-09/02

D/S: E(CH, FR, GB, IT, NL, SW).

Intermediate Priority: 14.3.78-DT-2810911.

Refuse, with an addition of sewage sludge, is stockpiled by depositing it in thin (40 mm) layers on which a similar layer is laid. Hard solids are segregated from the material by accelerating and separating into parts which respond or do not respond to impact.

This produces automatically well aerated stockpiles which require little space and do not cause environmental pollution. The plant operates with a high efficiency.

12.3.79 as 100743 (42pp39)

(G) ISR: —

KITA ★ D16 68465B/38 ★EP ---4-128

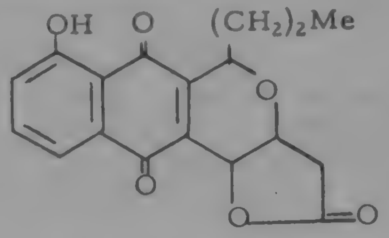
Frenolicin B from Streptomyces roseofulvus ATCC 31476 - useful as an antimicrobial esp. against fungi, yeasts and mycoplasma

KITASATO INST 17.02.78-JA-016452

B02 C02 (19.09.79) C07d-307 C07d-311 C07d-493/04 C12d-09/14

D/S: E(DT,FR,GB).

Frenolicin B of formula (I) and its salts, adducts and pro-drug forms are new:



(I)

(I) is an antimicrobial agent, esp. effective against fungi, yeasts and mycoplasma species, with better activity than deoxyfrenolicin described in US3452051.

30.1.79 as 300147 (19pp1248).

(E) ISR: 4 Journal references.

UKSO- D16 63491B/35 =EP ---4-137

Antigenically active bacterial cell envelope prepn. - formed by extracting cell envelopes with Zwitterionic surfactant

UK SEC SOCIAL SERV 17.02.78-GB-006462

*B04 (19.09.79) *GB2014-452 A61k-39/06 +C12k-05*

D/S: E(CH, DT, FR, NL, SW).

Antigenically-active cell envelope preparation is produced by disrupting bacterial cells, separating the cell envelopes, extracting these envelopes with a soln. of a zwitterionic surfactant and precipitating the preparation from the extract.

For preparing vaccines, particularly of Bordetella pertussis. The cell envelope preparation is produced in high yield, with the min. of other antigenic material.

15.02.79 as 300235 (7pp916)

(E) ISR: GB1108906.

SCIE ★ D16 68496B/38 ★EP ---4-214

Compsn. for treating virus diseases - contg. bacterial N-acetyl: neuraminate glyco:hydrolase, also useful against bacterial diseases, as immunostimulant and antitumour agent

SCIENCE UNION & CIE 16.02.78-CH-001719

B04 (19.09.79) A61k-37/54 C12d-13/10

D/S: E(BE, FR, GB, IT, NL).

Compsn. for treating viral diseases contains as active ingredient N-acetylneuraminate glycohydrolase (I), derived from cultures of Streptococcus pneumoniae, together with a standard excipient or carrier.

Pref. (I) is from S. pneumoniae I-044 (Pasteur Institute) and the unit dose contains 300-5000 U. The compsns. are formulated for parenteral, permucosal, percutaneous, perlingual or rectal admin.

Esp. for controlling influenza and rhinoviruses. (I) is also useful for controlling bacterial diseases and has specific and non-specific immunostimulants effects, making it useful against e.g. Erysipelotrix in animals, rhinitis, tonsilitis, laryngitis etc. (I) also has antitumour activity by removal of sialic acid from the membrane surface thus incerasing immunogenicity. (I) is very pure and is not toxic to cells.

15.2.79 as 400094 (42pp1251).

(F) ISR: FR2350847; FR2262962; 4 Journal References.

IOWA D16 27019Y/15 #GB 1552-611

Injectable Bordetella bronchiseptica vaccine - for preventing atrophic rhinitis and turbinate atrophy in pigs

IOWA STATE UNIV RES INC 29.03.76-US-671359

*B04 C03 (19.09.79) *US4016-253 A61k-39/02*

A vaccine in parenterally injectable dose form for administration to swine subject to Bordetella bronchiseptica infection is prepd. by admixing an effective adjuvant with killed whole cells of B. bronchiseptica strain ATCC No. 31124 in a dosage of 10^9-10^{11}, pref. 5-15 x 10^9 cells of the strain.

A parenteral vaccine is also prepd. in dose form for immunising swine against the development of the turbinate infection associated with B. bronchiseptica infection comprising an injectable absorbable adjuvant for parenteral administration to meat-producing animals in admixture with 5-15 x 10^9 cells of the strain, pref. in a dose of vol. 0.8-2.5 ml.

The vaccine can also serve to accelerate the clearance of infection, and protect the offspring of a pregnant sow from development of the infection. 11.1.77 as 000392 (7pp)

STAD D16 16740Y/10 =GB 1552-645

Aerobic fermentation vessel for protein prodn. - permits highly efficient operation and control of nutrient input, temp., etc.

STANDARD OIL CO (OHIO) 11.08.75-US-603460

*+Q78 (19.09.79) *DT2636-151 C12b-01/12 +B01f-07/16 F28b-01/02*

Continuous aerobic fermentation to produce singel cell microorganisms is carried out in appts. which includes a vessel into which a fermentation medium can be added and from which the microorganisma can be removed, an air inlet between the level of medium in the vessel, an air outlet for used air, and a cooler to keep the inside of the vessel above the medium at a temp. below the dew point of the used air such that condensation washes contaminants from the vessel wall.

The cooler is pref. a jacket outside the vessel Food or food supplement can be produced. 10.8.76 as 033278 (14pp1376)

BOEF D16 94294X/51 =GB 1552-697

Automated enzymatic analysis using dissolved enzymes - in circulation with removal of reaction prods. after measurement

BOEHRINGER MANNHEIM GMBH 13.06.75-DT-526558

*B04 J04 R16 (19.09.79) *BE-842-539 G01n-31/14 +G01n-21/26*

Process for circulating flow enzymatic analysis is claimed. To a soln. contg. dissolved enzymes for the main reaction and opt. further enzymes, as well as adjuvants (e.g. buffers, salts, coenzymes, colour formers), there is added a soln. contg. a substance to be determined and a particular reaction component (I) is measured in the resulting reaction mixt.

The reaction mixt. is circulated through a loop in the appts. and after the above measurement, is passed through a reactor in the loop to completely remove (I) without converting it into a non-disturbing prod. and the enzyme-contg. soln. opt. after supplementing with fresh materials is recycled.

Pref. (I) is partially dialysed off for measurement and the non-dialysed portion of (I) is removed. Samples are pref. segmented by air-bubbles. Reactor pref. contains an adsorbent.

Used for analysis of biological fluids e.g. clinical analysis. 8.6.76 as 023612 (6pp963)

FARB D16 23349A/13 =GB 1552-726

Electrically-treated microorganism suspensions - using alternating current, for attenuation or inactivation for vaccine prepn.

BAYER AG 25.09.76-DT-643213

*B04 (19.09.79) *BE-858-992 C12k-05*

Microorganisms can be attenuated or inactivated by subjecting a suspension to an A.C. at a voltage of 110 to 330V and a strength of 200 to 300 mA, the temp. being 4-60°C.

During the treatment, the micro-organism is pref. incorporated into a vaccine preparation. The treatment is pref. carried out for 5 to 300 minutes or 10 to 72 hrs. The vaccine prepn. pref. includes a solid or liquefied gaseous diluent.

Process can be used on bacteria, viruses, mycoplasms and chlamydia to produce a vaccine. 21.9.77 as 039329 (6pp1376)

MCDD D16 81425Y/46 =GB 1552-892

Pseudomonas aeruginosa determination in urine - using nutrient broth contg. trypticase soya, nitrate and cetyl trimethyl bromide

MCDONNELL DOUGLAS CORP 03.05.76-US-682653

*B04 +R16 (19.09.79) *DT2712-072 C12k-01/06*

A broth medium is prepd. for the detection of pseudomonas aerugiriosa comprising a nutrient source, a nitrate salt to assist in cell growth and pigment prodn. in the condition of limited oxygen, and cetyl trimethylammonium bromide to inhibit gram-negative organisms.

The presence of p.aeruginosa is indicated by the metabolic formation of a detectible pigment or the prodn. of visible biomass. The nutrient source is a mixt. of peptones including a peptone derived from casein by the pancreatic digestion and a papaic digest of soya meal high in vitamins.

Process is esp. used for the detection of P.aeruginosa in urine, which is a reliable indicator of an infection in the urinary tract. 8.3.77 as 009751 (3pp931)

HANS/ D16 89151X/48 =GB 1553-083

Indicators for checking effectiveness of antibiotics - consisting of porous base with strips contg. drug and nutrient for cultures

HANSEN K A 09.05.75-DK-002045

*B04 +R16 (19.09.79) *DT2620-339 +G01n-33*

An indicator for selecting antibacterial drugs is defined by an elongate moisture absorbent sheet on a moisture-impervious backing sheet with separate zones of a composition of nutrient for bacteria and an antibacterial drug.

The zones defining the separations between the composition zones pref. include a barrier strip of water insoluble glue. The absorbent sheet is pref. of paper or polyurethane foam, and the backing sheet carries indicia to identify the zones. The composition is pref. applied by printing.

Selection of drugs can be effected quickly at the site of testing. 5.5.76 as 016984 (4pp1376)

CENC- D16 47079A/26 =GB 1553-147

Cyto-centrifuge for prodn. of microscope slides - has solenoid valves allowing cell deposition without loss before fluid escapes

CENCO INSTRUMENTEN 09.12.76-NL-013690

*J04 R16 +P41 (J01) (19.09.79) *NL7613-690 +B04b-05/10*

Cells are sedimented on glass plates in a centrifuge which has radially extending chambers on a rotor each having a support at the side distant from the rotor axis for supporting the plate tangentially. Also the distant side of the chamber is a drainage channel which leads to a valve controlled drainage aperture disposed further from the axis.

The channel is pref. a constriction which limits the ain velocity to at most 100 ml/min. Each chamber is ref. connected to a central reservoir supplied in the rot-r. The high demands of quantatative cytological and cyto-hemical examinations can be met. 28.11.77 as 049451

MFP- ★ D16 B/38 ★IT 1031-709
utoclave for sparkling wine prodn.
AMF PADOVAN SPA 13.02.75-IT-020229
(10.05.79) C12g

URA/ ★ D16 68675B/38 ★J5 4100-441
ulcanising rubber compsns. using microorganisms - which are ulphur-oxidising or sulphur-reducing bacteria, followed by erilisation
MURAKAMI K 25.01.78-JA-006123
A35 (08.08.79) C08c-19

Method comprises adding sulphur-oxidising bacteria or ulphur-reducing bacteria to unvulcanised rubbers, storing he mixts. for suitable periods of time, and sterilising and hus crosslinking the rubbers.

The vulcanised rubbers produced have an increased crosslinking density (by the Flory-Rhener's swelling de-gree measure method) and fine stress-strain curved line.

In an example 100 g natural rubber was mixed with 5-10 % Thebacillus rubellus sufficiently. The mixt. was left at room temp. for 24-72 hrs. and heated at 100-150°C so as to sterilise the bacterium in a short period of time and crosslink the rubber. 25.1.78 as 006123 (1pp136)

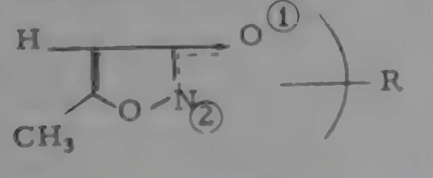
SEIK- ★ D16 68809B/38 ★J5 4101-410
Agent for treating hepatitis - obtd. from paramecium extract
SEIKO MATSUBARA 10.12.77-JA-148561
B04 (10.08.79) A61k-35/68

Prepn. of a treating agent for hepatitis comprises extracting paramecia (Paramecium aurelia, P. bursaria, P. calkinsi, P. candatum, etc.) with water or an aq. soln., sepg. the extract into a high mol. wt. fraction(A) and a low mol. wt. fraction (B) to form an aq. soln. of each fraction or a mixed aq. soln. of both fractions.

1ml of the fraction A (0.0001%) and 1ml of the fraction B (0.2%) were subcutaneously injected to patients of hepatitis every other day. The levels of glutamic oxalacetic transaminese (GOT) and glutamic pruvic transaminese (GPT) drastically reduced after one month at the soonest or after 3-4 months at the latest, indicating that the treatment has marked therapeutic effects. 10.12.77 as 148561 (5pp140)

SANY ★ D16 68826B/38 ★J5 4101-481
Accelerating growth of callus - using oxazole cpd. contg. culture medium
SANKYO KK 24.01.78-JA-006312
C02 E13 (10.08.79) C12k-09

Callus obtd. from living tissue or seed of plants is cultured in a culture medium free of plant hormone. Improvement is that the culture medium contains a cpd. of formula (I)


(I)

In (I), R is H or β-D-glucopyranosyl. Proviso is that when R is H, it is bonded to the oxygen atom ①, and when R is β-D-glucopyranosyl, it is bonded to the O atom ① or the atom ②.

Growth of callus is greatly accelerated under plant hormone-free and auxin-free conditions without injuring normal cells. Disintegration of cells after the max. growth period is suppressed and callus can be grown stably. 24.1.78 as 006312 (5pp5)

SUMO ★ D16 68827B/38 ★J5 4101-486
Purificn. of urokinase - by treatment with crosslinked agarose contg. a di:ethylamino:ethyl gp.
SUMITOMO CHEMICAL KK 25.01.78-JA-007762
A97 B04 (A11) (10.08.79) C07g-07/02

Method comprises treating crude urokinase with crosslinked agarose having a diethylaminoethyl gp. Pyrogen and other impurities contained in the crude urokinase are retained by the agarose.

Pref. the crosslinked agarose is DEAE-Sepharose CL-6B manufactured by Pharmacin Fine Chemicals, Sweden. The crude urokinase may be obtained from human urine using kaolin or bentonite. The crude urokinase is conditioned with a buffer of pH 6 to 9, pref. 7 to 8, contg. 0.01 M to 0.1 M of an electrolyte, and treated with DEAE-Sepharose CL-6B conditioned with the same buffer. The treatment may be performed continuously or batchwise.

A large amt. of crude urokinase can thus be purified in a very compact appts. 25.1.78 as 007762 (3pp16)

NITP ★ D16 68828B/38 ★J5 4101-487
Fermentative optical resolution of racemic menthol and isopulegol - by treating di;menthol or -isopulegol with aliphatic carboxylic acid in presence of Alginomonas nonfermentans and hydrolysing
NIPPON TERPENE KAGA KK 25.01.78-JA-006171
B05 E15 (D23) (10.08.79) C12d-13

Process comprises treating dl-menthol or dl-isopulegol with a 6-18C aliphatic carboxylic acid in the presence of Alginomonas nonfermentans NOF-5 (Ferm-P 1924) or an enzyme produced thereby to form 1-menthyl ester or 1-iospulegyl ester and hydrolysing the 1 ester to provide 1-menthol or 1-isopulegol.

The optically active 1-menthol and 1-isopulegol are useful as perfumes, pharmaceuticals and intermediates for these. Prods. have high optical purity.

Specifically the cultivation of Alginomonas nonfermentans NOF-5 may effected at 20-40°C for 20-30 hrs. under aerobic conditions in a nutrient medium (pH 6-8) contg. starch, corn steep liquor, yeast extract, urea, etc. The racemic alcohol and the aliphatic carboxylic acid may be added to the cultured broth. Alternatively a crude or purified enzyme obtainable from the cultured broth may be used for the esterification. The enzymatic esterification may be effected at 30 to 37°C. 25.1.78 as 006171 (5pp16)

DNIN ★ D16 68861B/38 ★J5 4101-773
Sepg. spirulina plant residues form extract liq. - by first injecting suspension into centrifugal separator
DAINIPPON INK CHEM KK 27.01.78-JA-007418
(10.08.79) B01d-11

Spirulina in amt. of 0.5 kg is suspended in 100 l of 0.02 molar phosphoric acid buffer soln. to form a suspension. After the suspension is left for 12 hrs. at 5°C, the suspension is injected into a desludge type centrifugal separator having sepg. plates rotating at a velocity of 8000 r.p.m. to separate the extract liq. and the spirulina plant residues

The extract liq. exhausted from the separator is immediately supplied into three sharpless type centrifugal separators each having a rotary cylinder rotating at a velocity of 15000 r.p.m. to separate spirulina plant residues, bacterium and the extract liq. so as to extract the liq.

The plant residues may be completely sepd. and removed from the extract liq. and the number of bacterium in the extract liq. may be reduced considerably. Method may be used to produce edible colouring matters. 27.1.78 as 007418 (4pp35)

TOYM ★ D16 69139B/38 ★J5 4103-395
Determn. of amylase activity - includes reacting malt-oligosaccharide, having an aromatic cpd. with hydroxy gp., with amylase opt. with alpha-glucosidase
TOYOBO KK 31.01.78-JA-010241
J04 R16 (D17) (14.08.79) G01n-33/16

Malto-oligosaccharide in which an aromatic cpd. having a hydroxy group is bound with the reductive terminal position, is reacted with amylase or amylase and α-glucosidase at the same time, and the aromatic cpd. having the hydroxy group is determined. The malto-oligosaccharide is a saccharide bound with 2-10 glucoses by α-1,4-glucoside-bond, e.g. maltose, maltotriose, maltotetraose, maltopentose and maltohexaose.

In an example, 0.25 ml of 4 mM phenyl-α-maltotetraside, 0.25 ml of 65 units/ml α-glucoside and 0.5 ml of 0.1 M NaCl-contg. 0.1 M phosphoric acid buffer soln. are mixed to form amylase activity-determining soln. To the soln. is added 0.02 ml of pancreactic juice, and reacted at 37°C. After the reaction, 0.5 ml of 0.05% 4-aminoantipyrine and 0.5 ml of 0.26 % potassium periodide, and degree of light absorption is measured. 31.1.78 as 010241 (4pp84)

TOYM D16 58698X/31 =J7 9024-877

Clinical inspection of heart and liver disease - by activity measurement of glutamic acid oxaloacetic acid amino grp transferase

TOYO SPINNING KK 14.12.74-JA-143687

*B04 R16 (24.08.79) *J51069-692 G01n-31/14 G01n-33/16*

Improvement in method of measuring activity of glutamic acid oxaloacetic acid amino gp. transferase (GOT) important to clinical inspection of liver, heart disease, involves using asparagic acid and α-ketoglutaric acid as substrate, upon wich GOT acts to produce oxaloacetic acid and glutamic acid.

Resulting oxaloacetic acid is heated with di- or trivalent metal ion (e.g., Ni^{2+}, Zn^{2+}, Fe^{3+}, Al^{3+}, etc.) in the presence of protein (e.g. aq. soln. composite protein such as nuclear protein, etc. or water-soluble simple pro-tein such as blood serum protein, etc.), to form pyruvic acid.

The activity of the enzyme is found by estimating this pyruvic acid. Method gives good reproducible precise results of Leitmann-Frankel method. Same reagent reagent can be employed for activity determn. of glutamic acid pyruvic acid amino gp. transferase. 14.12.74 as 143687 G01n-33/16; 31/14 (24.8.79) TOYO SPINNING KK (5pp) (J5 1069692)

TOYM D16 58880X/31 =J7 9024-878

Glutamic acid oxaloacetic acid amino gp transferase activity - measured by producing pyruvic acid and determining this

TOYO SPINNING KK 14.12.74-JA-143688

*R16 (24.08.79) *J51070-695 G01n-31/14 G01n-33/16*

A novel method for determn. of glutamic acid oxaloacetic acid amino gp. transferase (GOT), is provided. Asparagic acid and α-ketoglutatic acid are used as substrate, with which GOT is acted to give oxaloacetic acid and glutamic acid. The resulting oxaloacetic acid is acted on by oxaloacetic acid decarbonation enzyme, and decarbonated to form pyruvic acid. The amt. of pyruvic acid is determined. Oxaloacetic acid is turned to pyruvic acid in the above reaction.

In the absence of oxaloacetic decarbonation enayme in the reaction system, only 60% of oxaloacetic acid turns to pyruvic acid. The use of pyruvic acid as standard matl. is suitable from theoretical and practical standpoints. Limitation of amt. of substrate is not necessary, and determn. of activities of GOT is possible without diluting the reagent. 14.12.74 as 143688 G01n-33/16; 31/44 (24.8.79) TOYO SPINNING KK (5pp) (J5 1070695)

SAPB ★ D16 69220B/38 ★J7 9024-933

Mushroom cultivation - in culture medium contg. coffee dregs

SAPPORO BREWERIES 00.00.76-JA-061095 (02.04.74-JA-037274)

P13 (24.08.79) A01g-01/04

Edible mushrooms are cultivated in medium contg dregs of coffee as active ingredient. The mycelium of edible mushroom is incubated in a culture medium, followed by maintaining at 25-30°C, and then at 7-13C under a relative humidity of about 90% with irradiation by light. 2.4.74 as 061095/76 Div. ex. 37274/76 A019-1/04 (28.8.79) SAPPORD BREWERIES (2pp22) (J51145747)

HIGE- ★ D16 69221B/38 ★J7 9024-934

Edible mushroom cultivation - in medium contg. more nitrogen in upper layer

HIGETA SHOYU KK 23.08.76-JA-100822

P13 (24.08.79) A01g-01/04

Edible mushroom is cultivated in a culture medium whose upper layer contains a large amt. of N components and whose lower layer contains small amt. of N components In this way, edible mushroom can be obtd. at constant yield without being contaminated with other undesirable microorganism. 23.8.76 as 100822 A01g-1/04 (24.8.79) HIGETA SHOYU KK (5pp22) (J5 3027547)

SHIN- D16 71286A/40 =J7 9024-935

Seed material prodn. for growth of mushrooms - by mixing aq. surfactant soln. with plant fibres, gypsum etc., moulding and inoculating with mushroom fungi

SHINMORI SANGYO TOK 28.10.76-JA-128863

*A97 P13 (24.08.79) *J53098-255 A01g-01/04*

Prodn. of seed materials for growth of mushrooms comprises admixing an aq. soln. of a surfactant accelerating the growth of, or being harmless to, the mushroom hyphae and having a foaming property with fibres of plant origin, calcined gypsum, sawdust, rice bran, etc. and moulding the mixt. in a mould to link the fibres, sawdust, rice bran etc. inside the mouldings so as not to inhibit the growth and multiplication of mushroom hyphae.

The surfactant facilitates wetting of fibres and uniformly disperses the other nutrients into calcined gypsum, thus forming continuous micropores to constitute a network of the nutrients, while assuring good air ventilation for growth of mushrooms.

The mouldings are sterilised and inoculated with mushroom fungi to produce seed materials, which show improved activity and which are easy to transfer to wood for growth of mushrooms. 28.10.76 as 128863 A01g-1/04 (24.8.79) SHINMORI SANGYO TOK (3pp) (J5 3098255)

SEKI D16 29991Y/17 =J7 9024-957

Cultivation of fine algae esp. Cyanophyta and Chlorophyta - by supplying air and carbon dioxide to closed tank contg. mineral culture medium, and irradiating with light

SEKISUI CHEMI IND KK 09.09.75-JA-109751

*P13 (24.08.79) *J52034-975 A01g-33 C12k-01*

Fine algae (esp. Cyanophyta such as Chamaesiphonales, Pleurocapsa, etc. and Chlorophyta such as Volvocales, Tetrasporales, Chlorococcales, Ulotrichales, Oedogoniales Cladophorales, Zygnematales, etc.) are obtd. in large scale with increased multiplying velocity and in high yield.

The method comprises inoculating fine algae in the culture medium obtd. by adding ≥1 organic substance of sugars, organic acids, amino acids and alcohols to mineral culture medium. Air mixed with CO_2 is supplied and the closed culturing tank under pressure, is irradiated with light.

The mineral culture medium contains nitrogen source, phosphorus source and other nutritives. The sugar is a monosaccharide such as glucose, fructose, etc., disaccharide such as sucrose, maltose, etc. or a trisaccharide. The organic acid is acetic acid, pyruvic acid, citric acid, i-citric acid, succinic acid, malic acids, fumaric acid, etc. The amino acid is cystine, cysteine, methionine, serine, glycine, lysine, tryptophane, etc. The alcohol is methanol ethanol, propanol, butanol, glycerin etc. 9.9.75 as 109751 A01g-33/00; C12k-1/00 (24.8.79) SEKISUI CHEMICAL KK (3pp5) (J5 2034975)

SEIS D16 08128Y/05 =J7 9025-118

Fixation of microbial bodies - using collagen and a cross-linking agent

RES INST FOR PRODN 07.06.75-JA-069004

*B04 (25.08.79) *J51144-778 C07g-07/02 C12k-01*

Process comprises adding aq. collagen soln. contg. either enzyme-solubilised collagen or alkali-solubilised collagen to any cultured soln. containing microbial bodies, mixing it well and process it by any of following four methods; (1) The mixt. is dehydrated and dried, to obtain a fixed body: (2) To the mixt. is added cross-linking agent contg. aldehyde group, and microbial body is dehydrated and dried: (3) Microbial body is dehydrated and dried as (1), and is hardened using a cross-linking agent contg. aldehyde group or/and U.V. or γ-ray; (4) the mixt. is moulded into a film as it is and dried, or moulded by extruding in a salt-contg. soln. or organic solvent and is hardened using a crosslinking agent contg. aldehyde group or UV-ray or γ-ray.

The invention also relates to the fixation of microbial bodies which is characterised by adding aq. collagen soln. contg. either of enzyme-solubilised collagen or alkali-solubilised collagent to any cultured soln. contg. microbial bodies having a stable active pH range including the isoelectric point of the collagen to be applied, keeping pH in the neighbourhood of the isoelectric point, mixing it well and processing it by any of the above 4 methods.

Method ensures microbial bodies can be fixed while maintaining its specific properties. 7.6.75 as 069004 C12k-1/00; C07g-7/02 (25.8.79) RES INST. FOR PRODN. (8pp) (J5 1144778)

A- D16 08630Y/05 =J7 9025-120
galacturonase prepn. - by culturing Basidiomycetes
AKARA SHYZO KK 12.06.75-JA-071628
*(25.08.79) *J51148-092 C12d-13/10*

thod comprises culturing polygalacturonase-producing
etiporus, Phellinus and Gloeophyllium; and collecting
ygalacturonase from the culture prod. Carbon source
.g. sucrose, glucose, fructose, starch or molasses,
. Nitorgen source, is e.g. ammonium salt, nitrate,
a, peptone, beef extract or corn steep liq. Inorganics
growth accelerators may be added tothe medium. The
ture is at 20-35°C, pH 4-7 for 5-10 days for maximum
odn. of the enzyme. Submerged culture is used indus-
ally.

Although the enzyme contains pectinesterase, it can be
ed for clarifying fruit juice. etc. 12.6.75 as 071628
2d-13/10 (25.8.79) TAKARA SHUZO KK (4pp)
1148092)

EC/ ★ D16 69346B/38 ★SU -637-424
**croorganisms culture unit - has a central circulation cup higher
n diffusers and connected to turbo-aerators**
CHECHURA A A 18.03.76-SU-334950
(15.12.78) C12b-01/10

ficient foam breaking and intensified microorganisms
lture are achieved with the central cup set on the tank
ttom. The height of the cup exceeds the height of dif-
sers and its lower holes above channels connecting it to
rbo-aerators provide a passage for the fluid into the gap
r foam breaking. The device is used in the prodn. of
ed yeasts.

The air is admitted to the turbo-aerators from the
eader after filling the tank, and the medium saturated
ith gas flows between the diffusers and past the heat
xchangers. The resulting foam drops into the central cup
nd is drawn off along channels by the turbo-aerators.

hechura, A.A., Melnikov, I.A., Boiko, V.I., et al
ul.46/15.12.78.18.3.76.as334950(3pp89).

RM= ★ D16 69347B/38 ★SU -637-425
**lcohol prodn. fermentation control - using pressurised
rmentation gas for activating pulsators**
FERMENTATION PROD 21.07.77-SU-508937
(15.12.78) C12c-11/08

ntensified fermentation and increased resistance to infec-
ion of the medium in alcohol prodn. are ensured by gas
ulsation with pressure 20-30% above the static level. The
ulsator amplitude is 10-20mm, frequency is 100-150
min^{-1}, and the period of pulsations is 15-20 min.

The change over to conditions of fermentation without
ulsations is carried out by valve switching. The pulsed
gas is exhausted from the pulsator to the atmospheric
pipeline which is connected to a user point. The gas from
the fermenters is collected into a common pipe where
pressure is maintained above the fermenters pressure for
activating the pulsators.

Belozerov, P.A., Bartenev, Yu.S., Losenko, E.F., et al
Bul.46/15.12.78.21.7.77.as 508937(2pp89).

BIOT= ★ D16 69348B/38 ★SU -637-426
Nutrient medium for culturing Russula decolorans 2-strain - includes corn yeast and melt extracts and calcium chloride with magnesium sulphate salts for fast growth
BIOTECH RES INST 25.04.77-SU-481334
(15.12.78) C12d-13/10 C12k-01/06

Nutrient medium for cultivating Russula decolorans 2 seed material, used to produce milk-coagulating ferments, comprises(in wt.%): 0.7-1.4 C source, 0.8-1.2 corn extract 0.1-0.4 yeast, 4.0-15.0 malt extract, 0.01-0.08 K_2HPO_4, 0.02-0.06 KH_2PO_4, 0.005-0.2 $CaCl_2$, 0.05-0.07 $MgSO_4$, and balance water. Prefd. C sources are glucose and saccharified starch.

The medium provides fast growth and yields high quality seed material. A typical cultivation takes 3.5-5 days compared to 8-9 days and the amt. of seed material added in a fermentation may be 1.5-3% compared to 10-20%.

Evtikhov, P.M., Makarova, T.N., Epifanov, A.E., et al Bul.46/15.12.78.25.4.77.as481334(2pp314).

KDPO= ★ D16 69349B/38 ★SU -637-427
Fermented mash distillation column control - involves adjusting the rate of steam injection according to maximum setting of alcohol yield
KRASD POLY 19.01.77-SU-445934
(15.12.78) C12f-01/02

Maximum yield of alcohol in the distillation column of fermented mash is ensured by setting of highest output of absolute alcohol. The feed of steam is adjusted according to the setting, and loss of alcohol with the vat prod. is measured for correcting the column setting. The correction is carried out according to pressure in the lower part of the column, while the feed rate of fermented mash is controlled by measuring the speed of the mash pump.

The concn. of distillate and its flow rate are determined by transducers connected to a computer which forms a signal proportional to the output of alcohol. The signal is transmitted to the optimising controller of a servo, and which also receives the signal from the loss sensing transducer.

Aleshchenko, V.I., Tikhonov, V.Ya., Shelishpanskii, B.V., Bul.46/15.12.78.19.1.77.as445934(3pp89).

KICO= ★ D16 69350B/38 ★SU -637-428
Quantitative determn. of thiobacillus thiocyanoxidans in waste water - by rate of growth of test sample culture in thiocyanate-contg. nutrient
KIEV COMM HYGIENE 28.03.77-SU-476273
(D15) (15.12.78) C12k-01

Presence of Thiobacillus thiocyanoxidans bacteria in effluent water is quantitatively estimated by (a) sowing a sample into a nutrient medium contg. 1-2mg/l of thiocyanates, (b) incubating the resulting decimal fraction of test sample bacterial culture and (c) measuring the bacterial cell concn. after 3-4 days.

The method has high accuracy. In a prefd. process, incubation is at 28-30°C. Detection of the thiocyanate may be carried out using standard procedures, e.g. by adding 1% chloramine.

Yurovskaya, E.M., Bul.46/15.12.78.as 28.3.77.as 476273(2pp314).

KIIN= ★ D16 69351B/38 ★SU -637-429
Pathogenicity determn. of salmonella enteritidis - by adverse action of test sample bacterial on specified cell culture layer
KIEV INFECT DISEASE 20.04.77-SU-479759
B04 (15.12.78) C12k-01

The pathogenicity of Salmonella enteritidis bacterial strains is measured by (a) contacting a single colony of a one-day bacterial test culture with a monolayer of Hep-2 cells for 1-10 mins. and (b) microscopically estimated for the relative conc. of dead cells.

The method is simple and permits differentiation of pathogenic and non-pathogenic salmonellae:pathogenic strains will have invaded $>$ 5% of the cells and non-pathogenic strains $<$ 5% of the cells.

Suptel, E.A., Zagornaya, N.B., Omelyanets, T.G., Bul.46/15.12.78.20.4.77.as479759(2pp314).

CASI= ★ D16 69352B/38 ★SU -637-430
Nutrient medium for estimating amylolytic activity of vibrios - includes magnesium sulphate and potassium bi- and mono-substd. phosphate(s) for accuracy
C ASIA ANTI-PLAGUE 23.03.77-SU-468012
(15.12.78) C12k-01/06

Nutrient medium comprises(in g/l): 5.0-15.0 starch, 0.05-0.15 $MgSO_4$, 0.5-2.0$(NH_4)_2SO_4$, 5.0-10.0 K_2HPO_4, 1.0-3.0 KH_2PO_4, 0.3-0.7$NaNO_3$ and 18.0-21.0 Difko agar.

The medium enables the estimation of a ylytic activity of vibrios to be carried out with high accuracy.

Beketov, B.I., Martinevskii, I.L., Shashaev, M.A., et al Bul.46/15.12.78. 23.3.77. as 468012(2pp314).

ALTA= ★ D16 69353B/38 ★SU -637-431
Selection of lactic flora streptococci for dairy industry - by determining their lipolytic properties with respect to polyoxyethylene-sorbitol mono:palmitate
ALTAI DAIRY PROD 11.03.77-SU-462879
(D13) (15.12.78) A23c-19/02 C12k-03

Selection of lactic acid streptococci, for use in the dairy industry, is carried out by cultivating the streptococci in a nutrient medium contg. hydrolysed milk, water and tvin; transferring the culture(or the culture liquid) to a developing medium contg. agar-agar, $CaCl_2$ and the test substance; and cultivating at the optimal temp. in CO_2 atmos., for 8-10 days.

The method is improved by using milk hydrolysed with pancreatin and, as a test substance, tvin 40(polyoxyethylenesorbitol monopalmitate). Strains producing an opaque halo in the agar medium around the colonies exert lipolytic activity and hence, are unsuitable for use in the butter prodn. Strains, which do not produce such a halo, do not possess lipolytic properties and are unsuitable for cheese prodn.

Belov, A.N., Bul.46/15.12.78.11.3.77.as462879(2pp70).

ARKH= ★ D16 69354B/38 ★SU -637-432

Solar-contg. vegetable hydrolysate and cellulose pulp processing waste - treated with pyrolysed active mud as neutralising agent, for use in biochemical alcohol and yeast biomass mfr.

ARKHANGELSK FORESTR 18.07.77-SU-509962
F09 (15.12.78) C13k-01/04

Neutralisation of sugar-contg. hydrolysates of vegetable substances and spent sulphite lyes, prior to biochemical processing to produce alcohol and yeasts, is carried out using a reactant preliminarily subjected to pyrolysis. This method is improved by using as a neutralisation, reactant active mud subjected to pyrolysis, pref. at 800-950°C for 10-60 min.

By this method the quality of the neutralisation agent is improved and the cost is reduced. The technology is simplified because of the use of the dry reactant.

Gelfand, E.D., Krivulin, P.A., Bogdanovich, N.I., et al Bul.46/15.12.78.8.7.77.as 509962(2pp70).

FRID/ ★ D16 69444B/38 ★SU -637-671

Quantitative determination of pectin - by extn. with water and photometry using sodium hydroxide for colour forming, used in microbiology, food, textile, printing and medicine

FRIDMAN T F 10.03.77-SU-461062
B04 J04 R16 (D13) (18.12.78) G01n-33/02

The method involves treatment of an aq. soln. of pectin (I) with an alkaline agent, pref. sodium hydroxide (II) soln. acting as a colouring agent. The optical density of the coloured soln. is then measured at pH 11-12 at λ = 375-385nm. The amt. of (I) is found in the usual way from a previously prepd. calibration curve.

The method is simple, ensures higher accuracy(1.5% as compared with 3% by the existing method) and is more rapid(30 mins; 5 hrs. by the existing method). Standard deviation is 1± 1.5%.

The method ensures better quality biochemical prepn. based on (I); this is especially important in prepn. of pectolytic enzymes.

Fridman, T.F., Bul.46/15.12.78.10.3.77.as461062(2pp-48).

SHPI/ ★ D16 69459B/38 ★SU -637-931

Prodn. of beer-type drink - including brewing blend of malt, water, hop extract, yeast and alcohol

SHPILENOK A M 13 10 72 SU 836777
R53 (15.12.78) H02m-07/51

Lower installed capacity of commutating capacitors and wider frequency range of inverter are achieved by having the resistors in the d.c. branch of the diode bridge connected to the corresp. terminal of the bridge. The other end is connected to the junction of resistor and diode shunting the inductance in thyristor bridge.

The main thyristors are switched according to the inverter operation algorithm. During such thyristor turning off, the commutating current flows through auxiliary thyristor, reversed diode, resistors and inductance.

Shpilenok A.M. Bul. 46/15.12.78 13.10.72 as 836777 (2pp89)

ROAN= ★ D16 69472B 38 ★SU -638-337

Vibrio phosphorescens P 9504 strain - used in medical microbiology for serological identification of microorganisms

[illegible]
[illegible]

[illegible] P-9504 serotype 5 strain is a pro-ducer of agglutinating serum, and can be used in medic microbiology for serological identification of microorganisms. The strain, described as new, was found in human organism.

Galtseva, G. V; Somova, A. G. Bul. 47/25.12.78 4.4.77 476287 (2pp70)

ROAN= ★ D16 69473B/38 ★SU -638-

Vibrio phosphorescens P-9506 strain - used in medical microbiol for serological identification of microorganisms

ROST ANTI-PLAGUE 04.04.77-SU-476289
B04 (27.12.78) A61k-39/02 C12k-01/02

Vibrio phosphorescens P-9506 seratype 7 strain is a pro duce of specific agglutinating serum, and can be used in medical microbiology for serological identification of mi microorganisms. The strain, described as new, was fou in human organism.

Galtseva, G. V; Somova, A. G. Bul. 47/25.12.78 4.4.77 as 476289 (2pp70)

MOSU ★ D16 69612B/38 ★SU -638-5

Nucleic acid mixt. fractionation for biochemical etc. use - passing through column contg. benzoylated di:ethyl-amino-ethy cellulose and eluting with sodium chloride and buffer mixt.

MOSCOW LOMONOSOV UNIV 11.08.77-SU-506745
B04 (28.12.78) C07h-21

The method involves passing a soln. of DNA through a column filled with benzoylated diethyl-amino-ethyl cellulose(DEAE-cellulose). This is followed by linear gradient elution with 0.1-1.5M NaCl in borate buffer and ethanol(0.1-48 vol.%). This is followed by an additional elution with a mixt. of 1-1.5M NaCl soln. in borate buffer and dioxan (28-30 vol%).

Popov, L.S., Bul.47/25.12.78.11.8.77.as506145(2pp48).

GAND/ ★ D16 69617B/38 ★SU -638-60

Epoxy resin-based compsn. for coating food and drink storage tank - includes vinyl chloride-vinylidene chloride copolymer, hardene fillers and solvent

GANDELMAN KH K 21.06.74-SU-035964
A82 G02 (A14 A21) (27.12.78) C09d-03/58

The compsn. is used for coating ferro-concrete and metallic outer surfaces of storage tanks etc. used in the food and drink industry, e.g. for storing grape must etc.

The compsn. consists of (by wt.): 23-26% epoxy resin of mol.wt. 390-540, 10-15% vinyl chloride resin (I) comprising a copolymer of 60-78% vinyl chloride and 22-40% vinylidene chloride, 3-6% m-phenylendiamine, 8-12% TiO_2, 5-12% talc, 8-12% Fe oxide and balance solvent comprising 12% butylacetate, 26% acetone and 62% toluene.

The presence of (I) improves the life, strength and elasticity of the coating and reduces its hardening temp. A typical coating is heated at 65°-70°C for 3 hrs. followed by 105°-110°C for a further 3 hrs.

Gandelman, Kh.K., Zayarnyi, V.N., Bul.47/25.12.78. 21.6.74.as035964(2pp314).

PROT= D16 59937V/34 =SU -638-613

Recovery of yeast cell material - from petroleum based fermentation liquors by mixing with surface active agent and allow to separate

PROTEIN BIOSYNTHESI (ASSM/) 29.05.73-DL-171397
*H04 (28.12.78) *DL-106-196 +C12c-11/24*

Yeast cell material is recovered from petroleum-based fermentation liquors by mixing the liquor with 0.02-5 g/l (pref. 0.05-0.5 g/l) of a systemic surface active agent and allowing the mix to separate.

Suitable surface active agents are water soluble starches, water soluble proteins and protein derivs. phosphatides and lipd.-hydrocarbon extracts. After mixing with the surface active agent the mixt. is allowed to stand so that an upper oil layer forms which is rich in yeast cell material, and can easily be sepd.

Kurt, A., Werner, G., Michael, Ch., et al Bul.47/25.12.78.28.5.74.as029921(2pp).

DAGE= ★ D16 696258 38 ★SU -638-614

Prodn of diagnostic dry agar contg media - including mixing hydrolysed protein paste with agar at elevated temp.

DAGESTAN NUTRIENTS 06.01.75-SU-094138
B04 (28.12.78) C12k-01/06

Dry agarised nutrient media for use in diagnostic procedres are made by (a) concentrating a protein hydrolysate o a paste form(b) heating it to 40° -50° C, (c) mixing with gar in a ratio 3-4:1- 0.2,(d) granulating the mixt. and(e) rying.

The method is simpler and quicker than prior art methods.

liev, A. M., Stepanova, E. D., Milikhina, A. A., et al ul.47/25.12.78.6.1.75.as094138(2pp314).

PROT= ★ D16 69626B/38 ★SU -638-615

evice for controlling extn. of nutrient from fermenter - includes a ensor diaphragm carrying the poppet of bubbler tube valve

PROTEIN BIOSYNTH 08.07.76-SU-382169

(28.12.78) C12k-01/10

Accurate and reliable control of nutrient removal from fermenters in microorganisms culture is ensured by the level transducer in the form of an amplifying unit. The latter includes a diaphragm carrying the valve of the fixed nozzle, and the unit is connected to the fermenter by the bubbler tube.

The compressed air is fed to the tube through the diaphragm-controlled chamber, and it establishes a pressure proportional to the fluid level in the fermenter. Pressure adjustment is made by altering the clearance of the diaphragm-held valve.

Chirkov, I. M., Cherepenin, Yu. G., Lazarev, V.I., et al Bul.47/25.12.78.8.7.76.as382169(2pp89).

KARA/ ★ D16 69677B/38 ★SU -638-713

Leaching iron from rare and non-ferrous metal ore and concentrates - includes treatment with specified microbial fungal strain cultures suspension in aq. nutrient medium

KARAVAIKO G I 08.07.76-SU-385318

M25 Q49 (28.12.78) C22b-01/08 E21b-43/28

Fe is leached from rare and non-ferrous metal ores and concentrates in an improved method giving wider applicability, by treating the ores or concentrates with a soln. contg. microscopic fungi and a culture medium, the microorganism being selected from Pulluralia sp., Cephalosporium sp., Aspergillus sp., Thamnidium sp., Tricnoderma sp. or Penicillium sp.

The de-Fe prod. may be used in ceramics or in prod. of rare or non-ferrous metal.

The Fe is transferred into soln. by the organic acids and other prods. of microorganism activity as simple or complex ions, at 30°C over 1-2 weeks.

Karavaiko, G.I., Krutsko, V.S., Melnikova, E.O., et al Bul.47/25.12.78.8.7.76.as385318(3pp1347).

ALFA ★ D16 B/38 ★SW 7801-134

Liq. organic cpd. prodn. by fermentation of carbohydrate material - followed by vacuum evaporation of cpd. from fermented liq.

ALFA-LAVAL AB 31.01.78-SW-001134

E19 (03.09.79) C12b-01

The carbonhydrate material is fermented in a fermentation vessel, and the gases produced by fermentation are allowed to escape from the space above the liq. in the vessel. Part of the fermented liq. is conveyed from the vessel to a vacuum vessel, in which the reduced pressure separates the organic cpd. as a vapour or near the fermentation temp. 31.1.78 as 001134 (-pp1407)

FARB D16 68073V/39 =US 4167-446

Polymer-bound, water-soluble penicillin acylase - for converting penicillins into 6-amino penicillanic acid

BAYER AG 15.03.73-DT-312824

*A96 B04 (B02) (11.09.79) *DT2312-824 C07g-07/02 C12d-09*

A water-soluble non-colloidal penicillinacylase (I) compsn. comprises (I) covalently bound to a cyanogen halide activated water-soluble polysaccharide (II). Pref. (II) is dextran, water-soluble starch, levan or CMC and the compsn. passes a filter having a pore dia. of 0.8-1 μ but does not pass a membrane which is impermeable to molecules of mol. wt. ≥ 100 000.

The compsn. is obtd. by reacting (I), in aq. medium, with the reaction prod. of (II) and a cyanogen halide. The compsn. hydrolyses penicillin and permits recovery of 6-aminopenicillanic acid in high purity. 30.10.75 as 627132 (+8.3.74-US-449272) (9pp992).

USDA ★ D16 69755B/38 ★US 4167-447

Insolubilised, active enzymes prepn. - by mixing solns. of enzyme and chitosan, then adding alkali or sulphate ions

US SEC OF AGRICULTURE 24.03.78-US-889672 (19.07.76-US-706980)

A97 (D13) (11.09.79) C07g-07/02

An insol. but active enzyme (I) is prepd. by (a) dissolving a soluble active enzyme (II) in H_2O; (b) mixing the aq. soln. of (II) with an aq. soln. (prepd. at pH 3-7) of chitosan (III) and (c) pptg. (I) by addn. of an alkali or a source of SO_4^{2-}. Pref. (I) is a sugar-hydrolysing enzyme, invert-ase or a glucose-oxidising enzyme.

Reusable (I) retain their activity over a wide range of uses, esp. in continuous operation processes for long periods and with large vols. of soln. The granular texture makes (I) esp. useful in columns, when liq. readily flows through. (I) may include enzymes normally difficult to insolubilise, and may be used in the processing of foods, drinks etc. 24.3.78 as 889672 C.i.p 4089746 (cf 49534 A/27) (5pp478).

ZAID D16 55160A/31 =US 4167-448

Amastatine A1, A2, A3, B1, B2 aminopeptidase A inhibitors - which stimulate antibody formation, are 3-amino-2 hydroxy-4- or 5-L-valyl-L-valyl tetra:peptide(s)

ZH BISEIBUTSU KAGAKU KEN 22.07.77-JA-088729 (04.10.76-JA-119089)

*B04 (11.09.79) *BE-865-565 C12d-13/06 +A61k-35/74*

Prodn. of a tetrapeptide of formula X-Val-Val-Y (I) comprises aerobically cultivating a microorganism capable of producing (I) and belonging to the genus streptomyces, in a suitable medium.

In (I), X is 3-amino-2-hydroxy-4 or -5-methylhexanoyl. Val is L-valyl. Y is L-aspartic acid α-amide, L-aspartic acid or L-glutamic acid when X is 3-amino-2-hydroxy-5-methylhexanoyl, or is L-glutamic acid α-amide or L-glutamic acid when X is 3-amino-2-hydroxy-4-methylhexanoyl. The amino gp. of the Val adjacent to X is acylated with the carboxyl gp. of X to form an amide bond, the carboxyl gp. of Val acylates the amino gp. of the other Val to form an amide bond and the carboxyl gp. of the other Val acylates the amino gp. of Y to form an amide bond.

(I) inhibit aminopeptidase A and stimulate antibody formation. 16.6.78 as 916184 Div. ex 4126606 (+ 19.9.77 -US-834635) (11pp992).

UYNE- ★ D16 69756B/38 ★US 4167-450

Maintenance-state culture of single-cell microorganisms - to fix nitrogen, and give effluents contg. useful metabolites etc.

UNIV NEW HAMPSHIRE 13.07.77-US-815079

(11.09.79) C12b-01 C12d-01 C12d-03

Method of growing and maintaining a culture of single-celled microorganisms (I) so that >90% of the available energy source is used for maintenance energy is as follows (a) a liq. nutrient medium (kept in a closed system consisting of a vessel connected to a filter so that a cell-free filtrate contg. metabolites can be continuously withdrawn from the system) is seeded with (I) cells which are then cultured; (b) as the cell mass is increasing additional nutrient medium is added at a vol. rate (F_R) such that $F_R \times S_R$ is constant (S_R is energy substrate concn.), and the cells are cultured until the rate of increase of mass is reduced to a min., and the cell concn. (X_m) is given by equation (A), the S_F (concn. of energy source in the system) is allowed to decrease to zero; (c) a portion of the medium is filtered and is then transferred at a rate F_S to a receiver.

$$X_m = \frac{F_R}{V_R}\left[\frac{S_R - (S_F + S_A)}{M_c}\right] \qquad (A)$$

In (A), X_m = cell mass/unit fluid vol.; V_F = fluid vol. of system; S_A = amt. of energy source assimilated into cells/unit fluid vol.; M_c = coefficient relating rate of use of energy source for maintenance energy to cell mass.

Method may be used to produce cell mass from a C energy source and also to completely metabolise substrates, both at max. efficiency, and is esp. useful in waste treatment systems. In addn., the system may be used to fix atmos. N_2, affording effluents contg. useful metabolites (e.g. 2,3-butanediol) which may be immediately and completely sepd. from the rest of the system. 13.7.77 as 815079 (8pp478).

TEXC- ★ D16 69820B/38 ★US 4167-560
Polyvalent shipping fever vaccine - contg. Pasteurella multocida and hemolytica and Salmonella typhimurium
TEXAS VET LAB INC 12.04.77-US-786940
B04 C03 (11.09.79) A61k-39/02

Treatment of the bacterial phase of shipping fever in livestock is effected by subcutaneous administration into the lymph drainage of the cervical region of a water-in-oil emulsion having suspended in the aq. phase a mixture consisting essentially of the killed forms of Pasteurella multocida, Pasteurella hemolytica and Salmonella typhimurium.

Used esp. for treating lambs or calves. Emulsion m have suspended additionally in the aq. phase a mixt. including the killed forms of E. coli, Paracolon species, Proteus vulgaris, Pseudomonas aeruginosa and Morexell bovis. 12.4.77 as 786940 (6pp476).

VOLP/ ★ D16 69901B/38 ★ZA 7803-6
Wine making process using screening centrifuge - to leave skins ar seeds moisture free and maximising juice obtained
VAN OLTHEN G C 18.08.78-PT-068443 (26.06.78-ZA-003631)
*(28.05.79) C12g-00/**

See Also

D13 DT 2908639 D13 GB 1552791 D13 GB 1552909
D13 GB 1553176 D13 J5 4101447 D13 US 4167591

D17: SUGAR; STARCH

HAYB D17 06247T/04 =DS 2134-938
Macromolecular amylose prodn - by gelatinisation of starch, enzymatic hydrolysis of amylopectin, freezing, thawing and centrifugi
HAYASHIBARA KEN 13.07.70-JA-061274
*A11 (13.09.79) *BE-769-921 +C12d-13/02 C13k-01/06*

Prepn. of pure amyloses of high and low molecular mass comprises gelatinisation of aq. starch at about 100-170 (100-135)°C. The mixt. is rapidly cooled to about 40-60°C and hydrolysed by addn. of 1,6-glucosidase. The soln. is then frozen to below -5 (pref. -15 to -20)°C and thawed, followed by heating to about 40-80 (55-70)°C esp. in the presence of ultrasonic. The ppte. of higher amyloses is removed and the soln. is evapd. to obtain lower amyloses. 13.7.71 as 134938 (4pp047)

NYKO- D17 29299V/16 =DS 2347-425
Fibrous material extractor - from liquid flowing in trough esp with sugar beet etc in suspension
SUKKERFABRIKEN NYKO 25.09.72-DK-004736
*+Q35 (13.09.79) *DT2347-425 A23n-13 B65g-17/12 C02c-01/22*

A device to separate and collect fibrous or leafy material such as leaves, grass or straw from a flow of substances such as sugar beet or potatoes in a water stream consists of a continuous conveyor, with a moving endless reinforced rubber belt, carried in a triangular loop over three pulleys. Serrated metal bars are fixed at regular distances by rubber straps to the belt and hang down into the water duct where they are moved opposite to the direction of the fluid. The material collected by them is raised in the ascending branch and is discharged past the top pulley when the bars hit against an impact roller.

This device operates with little noise at any temp. It suffers little wear or corrosion and eliminates any wedging of the material between the serrated bars. 20.9.73 as 347425 (7pp39)

BOEF D17 75748W/46 =DS 2511-904
Recovery of sugar from molasses - by chromatographing on calcium type cation exchanger in columns connected in series
SUDDEU ZUCKER AG 19.03.75-DT-511904 (00.00.73-DT-362211)
*(13.09.79) *BE-828-541 C13j-01/06*

Molasses is sepd. into sugar and non-sugar material by liq. chromatography using cation exchangers in calcium form. The exchange material is arranged in ≥ 3 columns, each contg. 25-45 vol.% of the exchanger. The molasses soln. is passed into the first column and eluted with decarbonised water. When sugar is detectable in the eluate it is passed into the second column. The same procedure is followed for the second to third column. Sepn. is pref. effected at 50-99°C.

The process time is reduced. 19.3.75 as 511904 Add to 2362211 (6pp068)

MERE ★ D17 68340B/38 ★DT 2903-388
Fructose and gluconic acid prepn. from glucose fructose mixt. - by selective glucose oxidn. at alkaline pH using precious metal-activated oxygen
MERCK PATENT GMBH 20.02.78-CH-001809
E17 (E13) (13.09.79) C07c-59/17 C13k-03

Fructose and gluoconic acid or their salts are prepd. simultaneously by the selective oxidn. of the glucose component of gluocose-fructose mixts. or invert sugar. O_2 or air activated by precious metal catalysts is used as oxidising agent. Oxidn. takes place at pH 8-10 and is broken off after forming 1 equiv. carboxylic acid or carboxylate ion/mol glucose used.

Glucose-free fructose and gluconic acid, free from byprods., are obtd. in high yields. Gluconate yield is 93-95% of theoretical. Fructose yield in mother liquor is 90-95% of theoretical. 30.1.79 as 903388 (13pp200)

PURD ★ D17 68397B/38 ★DT 2908-992
Solid or aq. solvent for extracting cellulose - from cellulosic waste, contains metal chelate former, metal and caustic swelling agent
PURDUE RESEARCH FOUNDATI 08.03.78-US-884477
F09 (13.09.79) C12d-13/02 C13k-01/02 D21c-05

Non-toxic cellulose solvent compsn., present as a dry powder, consists of a metal chelate-former, a metal and a caustic swelling agent, and is referred to as 'CMCS', signifying 'chelating metal caustic swelling'.

A solvent compsn. for dissolving and extracting cellulose from cellulosic materials is claimed, contg. (1) a swelling agent, e.g. NaOH, to set a high or low pH, to loosen the cellulose structure from cellulosic material coming in contact with the solvent, (2) a metallic cpd., esp. $FeCl_3$, having access to the cellulose structure, (3) a protective agent to retain the metal in soln., esp. tartaric- or gluconic acid, and (4) a stabiliser, esp. $NaSO_3$ to stabilise the solvent compsn.

The solvent is used for processing waste materials, e.g. straw, to recover cellulose which can be hydrolysed to glucose. The solvent can be recovered quantitatively and recycled. The starting material need not be dried before treatment with solvent. Use of a solid solvent saves operating costs. 6.3.79 as 908992 (20pp200)

HOKA D17 92127A/51 =GB 1553-166
Maltose liq. purificn. - by contacting with activated carbon in an aq soln. of methanol, ethanol or acetone (DK 13.11.78)
HOKKAIDO SUGAR KK 21.04.77-JA-045175
*E13 (19.09.79) *J53130-754 C13k-07*

Maltose soln. is purified by means of activated carbon. The process comprises pretreating the activated carbon by bringing it into contact with an aq. soln. of methanol, ethanol or acetone.

The same organic solvent is added to the maltose soln. until the solvent concn. equals that of the solvent concn. used in the first step. The organic solvent-contg. maltose

n. is then fed to a bed formed of the pretreated activat- carbon. The aq. soln. of the first step is then fed to the tivated carbon bed to which the maltose soln. was fed in e third step. The maltose-rich eluate is then recovered om the activated carbon bed, and the organic solvent parated from the eluate.

The yield of maltose derived from the process is > .5% pure and in high yield, and free from maltotriose d maltotetraose. 18.4.78 as 015262 (10pp 931)

URD ★ D17 68608B/38 ★GB 2016-014

ucose prodn. by cellulose acid hydrolysis - in which cellulose is ssolved and pptd. before hydrolysis

PURDUE RESEARCH FOUNDATI 08.03.78-US-884478

E13 (19.09.79) C13k-01/02

ucose is prepd. by contacting cellulose material with a lvent which is either a mixt. of ethylene diamine, cad- ium hydroxide and water, or a chelating metal caustic velling agent, to form a soln. The cellulose is pptd. om the soln., and then hydrolysed.

Higher yields of glucose can be obtd. using simple acid ydrolysis, without the need for expensive enzymes. 3.2.79 as 007042 (4pp955)

VE D17 81234T/51 =J7 9024-984

ontinuous crystallization process control - comprising integrated oncentrator and crystallizer

FIVES LILLE CAIL 16.06.71-FR-021791

*J01 (24.08.79) *BE-784-604 B01d-09/02*

he process is one of crystallisation by evaporation and omprises second cells and a heat exchanger. The rate f introduction of feed soln. or of heat to the final stage s controlled as a function of the percentage of crystals r dry prod. removed from the final stage.

The feed rate of unsaturated soln. to the intermediate stage is controlled as a function of the state of the prod. e.g. viscosity, density, etc) in one of these intermediate cells. For use in any continuous crystallisation operation as in sugar refining. 16.6.72 as 059636 (cig. 16.6.71-FR-021791) B01d-9/02 (24.8.79) FIVES LILLE CAIL SA (6pp) (J4 8009979)

GREA- D17 36187W/22 =J7 9025-094

Stimulating sugar extn from plant tissues - pref. sugar beet, by leaching with water in presence of ethylene

GREAT WESTERN SUGAR 16.11.73-US-416637

*(25.08.79) *DT2449-521 C13d-01*

Sugar extn. form sugar-contg. plant tissues is stimulated by contacting the plant tissues with the leaching water in the presence of C_2H_4. Pref. sugar beet chips are passed through a diffuser, counter-currently to leaching water, and C_2H_4 is introduced into diffuser, pref. into leaching water.

Method is applicable to sugar extn. from sugar beet roots as well as sugar cane, maize, sorghum and other plants. Purity of extd. sugar is high. Extn. velocity is increased. 15.11.74 as 131862 (clg. 16.11.73-US-416637) C13d-1/00 (25.8.79) GREAT WESTERN SUGAR (11pp) (J5 0094144)

FOOD= ★ D17 69422B/38 ★SU -637-619

Sampler for sugar-beet pulp - has two conveyors, conical mixing drum with scraping string, and plate with calibrated hole

FOOD EQPT RES EXP 13.07.77-SU-498401

R16 (19.12.78) G01n-01

Device for taking samples of vegetable pulp, e.g. in the sugar-beet ind. for analysing for sugar content, comprises of two conveyors, mixing mechanism and receiving con- tainer. The quality of the extracted sample is improved, by adding two pneumatic cylinders, a flexible string, and stationary plate with a calibrated hole for proportionating the beet sample. Pushers and scrapers are mounted on the rods of the pneumatic cylinders, while the mixer is a rotating truncated cone, on the internal surface of which and along its functional line the string is fastened. Khotimskii, V.P., Sergeev, A.I., Nesterov, A.D., et al Bul.46/15.12.78.13.7.77.as498401(2pp29).

See Also

D16 J5 4103395

D18: SKINS; HIDES; LEATHER; TOBACCO

RETO D18 30885U/22 =DS 2254-652

Tobacco processing plant - for humidification using steam cloud on free falling tobacco

REYNOLDS TOBACCO CO 08.11.71-US-196601

*P15 (13.09.79) *NL7215-090 A24b-03/04 A24b-03/06*

Treatment of tobacco leaves comprises passing the leaves or leaf fragments to the top of a column, up which a stream of hot gases (pref. steam) at 55-105° (pref. 75-95°), issues from centrally placed nozzles, opt. in the presence of dissolved and/or suspended tobacco flavouring and/or odorant additives. As the leaves fall down the column, they are agitated mechanically and the prods. are collect- ed at the base of the column. 8.11.72 as 254652 (5pp047)

TOBC D18 82522V/47 =DS 2428-399

Non destructive hardness testing of gas permeable articles - by measuring volume change on application of vacuum

TOBACCO RES & DEV INST 00.00.74-ZA-000651 (12.06.73-ZA-003954)

*P15 + R11 R15 R16 (13.09.79) *ZA7303-954 A24c-05/34 G01m-03/36*

A non-destructive method of measuring the firmness of an article which is permeable to gas, esp. of a cigarette, uses an elastic tube inside a horizontal chamber, filled with coloured water. After the tube has been expanded by applying a vacuum to the chamber, a cigarette is introduc- ed and the vacuum is released. A vacuum is then applied to the tube with the cigarette and any level change of the water is observed on a gauge glass, attached to the cham- ber.

The firmness of the cigarette can be judged from these readings. This instrument can be operated by unskilled persons on the shop floor. 12.6.74 as 428399 (6pp39)

KIMB ★ D18 68333B/38 ★DT 2820-414

Denitrated reconstituted tobacco prepn. - comprises aq. extn., extract contact with microorganisms under anaerobic conditions and recombination with fibre fleece residue

KIMBERLY CLARK CORP 06.03.78-US-883449

P15 (13.09.79) A24b-03/14 A24b-15/02

Re-constituted tobacco is obtd. by first extracting natural tobacco with water, to obtain a tobacco extract and fibro- us residue. The fibrous residue is shaped to a paper-like fleece and the aq. tobacco extract is contacted with micro -organisms, e.g. bacteria or fungi, to convert its nitrate content to N_2 and reduce the nitrate content of the extract. The denitrated extract is re-combined with the fibrous tobacco fleece, pref. in an anaerobic environment.

Denitration increased burning-time of cigarettes, to a 40 mm length, e.g. from 3.2- to 9.2 min. NO quantity in smoke was reduced, e.g. from 880 to 90 μg. 10.5.78 as 820414 (16pp200)

BERT- ★ D18 68526B/38 ★FR 2411-069

Machine to cut flexible sheets of leather, plastic, textiles etc. - with manually steered high pressure fluid cutting nozzle

BERTIN & CIE 06.12.77-FR-036655

A31 F07 P62 (10.08.79) B26f-01/26 C14b-05

Machine uses a high speed jet of fluid, usually water, to cut through the sheet. The sheet to be cut is laid flat upon a horizontal work table made of porous material through which the fluid can drain. Above and very close to the sheet on the table is the outlet of a nozzle piped to a source of high pressure fluid.

Immediately beneath the table and directly opposite to the nozzle outlet is a cup to catch fluid and return it to the source. Nozzle and cup are fixed to a common support which can be moved horizontally relative to the work table.

The entire area of the table is positioned over a tank which collects any fluid escaping from the cup. The tank drains back to the source. The nozzle and cup support is pref. fitted with a guiding handle and mounted on radial arm pivoted to be swung in a horizontal plane.

Used for cutting sheet material such as skins, leather, plastic, textiles, paper, rubber. Employable partic. in a tawery for dressing and cutting light skins, e.g. to remove flaws. Process eliminates manual dressing with scissors. The machine is quiet in operation, easy to load and unload and safe for the operator. 6.12.77 as 036655 (10pp).

CELA ★ D18 68589B/38 ★GB 2015-921

Cellulose acetate foam cigarette filter rod - prod. by extrusion with blowing agent under controlled temp. conditions

CELANESE CORP 13.03.78-US-886201

A88 P15 (A11 A32) (19.09.79) A24c-05/50 A24d B01d B29d-27 C08j

A plasticised open cell foamed cellulose acetate filter rod is prepd. by extruding a melt free of entrained air and contg. cellulose acetate, a plasticiser, a blowing agent which is at least a partial solvent for the cellulose acetate, and a nucleating agent.

The process is carried out in six zones:- (i) a polymer feed zone, where cellulose acetate flake is kept at -20 to 100°C, (ii) a melting zone at 100-240°C, (iii) a high pressure high shear zone where blowing agent is added, (iv) a fourth zone at a lower temp. than the third, (v) an extrusion die zone kept at 180-270°C, and (vi) a sixth zone kept at a temp. from 45° up to within 5°C of the glass-rubber transition temp. of the extrudate. Zones 2-4 are contained in a screw extruder.

The rods are useful as cigarette filters, The foam is low density, the cells being bridged by fibre-like elements The surface area is high, and pressure drop is low. The plasticiser is uniformly distributed, improving phenol removal from smoke. 13.3.79 as 7008813 (12pp955)

CELA ★ D18 68596B/38 ★GB 2015-961

Polymer encapsulated alkaloid(s) esp. tobacco alkaloid(s) - for use in tobacco substitutes, pesticides and feedstuff supplements

CELANESE CORP 13.03.78-US-885914

A97 C02 E13 (D13) (19.09.79) B01j-13

Microcapsuled are claimed comprising a core carrying kaloid(s), pref. tobacco alkaloids, surrounded by a wall of polymeric material. They are prepd. by (a) forming a mixt. wall forming material, a water miscible vehicle which can dissolve the wall forming material, and an aq. soln. contg. the alkaloid; (b) agitating the mixt. to disperse the aq. phase as minute droplets in the behicle; (c) inducing phase sepn. to coat the droplets with wall forming material, and(d) hardening the wall forming material.

The prods. are useful as extended action pesticides, feedstuff supplements, and as a constituent of smoking materials, esp. tobacco substitutes. The rate of release of alkaloid can be controlled by choice of materials and degree of hardening of the capsule walls. Smoking materials contg. encapsulated alkaloids have extended shelf lives. 3.3.79 as 008815 (11pp955)

KITA- ★ D18 690688/38 ★J5 4102-

Decorative laminated panel - consists of substrate, leather layer transparent or translucent plastics top layer

KITAYA KK 30.01.78-JA-010162

A94 F08 P73 (11.08.79) B32b-09/04 B32b-27/06

The panel consists of a substrate, a leather layer bonde to the substrate, and top coating of transparent or translucent plastics, in which the leather is bonded with the back side out or the grain side of the leather is removed

A scratch resistant and durable decorative panel can be made from relatively low quality leather.

In an example, sheep leather of about 3 mm thickness is sliced into 2 to 3 pieces of about 0.5 mm thickness. The sliced leather is bonded to a substrate with a vinyl acetate emulsion adhesive. A top coat of 0.3-0.5 mm thickness is made by spraying polyester urethane or epo resin. 30.1.78 as 010162 (4pp128)

ULEA= ★ D18 69355B/38 ★SU -637-4

Drum for liquid treatment of hides - has a false bottom of perforate tubes in a single plane with plugged projections

UKR LEATHER SHOE 18.04.77-SU-476160

(15.12.78) C14c-15

Improved operation of drum for liquid treatment of hides is ensured by its false bottom in the form of tubes set in a single plane. The tubes are interconnected and their ends project outside the cylindrical surface of the drum a well as hold plugs.

The hides are loaded through the batch, and the liquor is fed through the hollow trunnion. The working zone is formed between the perforated false bottom and the drum bottom. The clogged perforations are cleared by compressed air.

Melnikov, V.M., Karpukhin, G.G., Ivakhnenko, T.P., et al Bul.46/15.12.78.18.4.77.as476160(2pp89).

ITSH ★ D18 69698B/38 ★US 4167-10

Shoe upper margin roughing machine - in which last is rocked to position heel, shank and forepart horizontally during roughing

INT SHOE MACHINERY CORP 21.07.78-US-926673

P22 (11.09.79) A43d C14b-01/44

A machine comprises a last carrying an insole with the upper margin secured to the insole bottom, and a tool above the assembly and yieldably urged downwardly to rough the upper margin as the last is moved past the tool.

The assembly bottom has heel seat, shank and forepart in different planes, and the last is rockable so that the three parts each lie in a horizontal plane during movement past the tool. The last is moved through an arc and is held in each of the three positions for appropriate movement past the tool. 21.7.78 as 926673 (15pp1358).

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL ; TOILET PREPARATIONS

RIM D21 71473T/45 =DS 2216-421
air dyeing compsn - comprising oil/water emulsion
BRISTOL MYERS CO 05.04.71-US-131426
*E18 (13.09.79) *DT2216-421 A61k-07/13*

air tinting agent comprises a stable oil-in-water emulson with a water-insoluble oil phase, solvent aids and/or mulsifiers (but not sulphonates), dyes, opt. aerosol proellants and the usual additives. The insoluble oil compries fatty acid derivs. of formula $RCOOR_1$, ROR_2, $CON(R_2)_2$, $RN(R_2)_2$ and/or $RC_6H_4O(CH_2CH_2O)_mH$, pref. $_3CON(R_4)CH_2CH_2OH$.

The dispersion agent comprises one or more cpds. of he type (a) glycols or glycol ethers of formula $(R_5O(R_6O)_n$-R_7OH, (b) soaps of formula $(R_8COO)_pM$, (c) penta (or higher) hydroxyalkyl derivs. of alcohols, amines, acids, amides and alkylphenols and (d) polyhydroxyalkyl long chain fatty acid esters; pref. amides of formula $R_9CON\angle(CH_2CH_2$-$O)_x\underline{H}\overline{7}$-$\angle(CH_2CH_2O)_y\underline{H}\overline{7}$. In these formulae, R is an 8-20C hydrocarbon chain; R_1 is 1-6C alkyl; R_2 is H or $(CH_2CH_2$-$O)_{1-6}H$; R_3 is 10-20C alkyl; R_4 is H or CH_2CH_2OH; R_5 is H or 1-4C alkyl; R_6 and R_7 are each 2-4C alkylene; R_8 is 10-20C alkyl; R_9 is 10-20C alkyl; n is 0-150; m is 1-6; and p is the valency of the cation M. 5.4.72 as 216421 (10pp)

ORLA- D21 02288X/02 =DS 2524-297
Serine-contg cosmetic formulation - acting as a skin softener-humectant
ORLANE 06.06.74-FR-019578
*E16 (13.09.79) *DT2524-297 A61k-07/48*

Cosmetic to soften skin contains 0.2-5 wt.% of serine as the active ingredient.

Continual washing of skin can often have a harmful effect, esp. on the outermost skin layer. The cosmetic keeps or returns the skin's natural softness. The prod. can be used as a cream, milk, alcohol contg. water and/or lotion, aerosol or gel. 2.6.75 as 524297 (4pp068)

WIEL- D21 84231A/47 =DS 2720-158
Copper-free gold casting alloy contg. indium - for dental applications
FA WIELAND T 05.05.77-DT-720158
*M26 (13.09.79) *DT2720-158 C22c-05/02*

Copper-free gold casting alloy for dental fillings, based on 50-70% Au, 10-15% Ag, 2-40% Pt and 1.5-2.5% Zn contains addns. of 2-6% each of Pd and In pref. in the ratio 1:0.5 to 1-2.0. The ratio (Pd + In):Zn is pref. 5-8.

The pref. alloy consists of 70% Au, 18.7% Ag, 4% Pt, 1.5% Zn plus 2% Pd, 3.5% In and 0.3% Ru. The alloys are suitable for masticating surfaces and pref. are used in the kneaded condition. 5.5.77 as 720158 (3pp1346)

LIOC D21 34442A/19 =DS 2740-446
Film-forming compsn. used to prevent dental caries - contains active cpds. contg. tin, binder, water and stabiliser
LION HAMIGAKI KK 11.09.76-JA-108988
*B05 (13.09.79) *J53034-934 A61k-05*

Paste for oral ultrasonic prophylaxis of dental caries contains a mixt. of binding agent, esp. xanthanum gum, carriageenan, guar gum, carob bean gum and/or propylene glycol alginate; a Sn cpd. as caries inhibitor; and malonic acid gas stabiliser, with less than 5 wt.% insoluble components.

Pref. Sn cpds. are SnF_2, $SnCl_2$, $SnCl_4$, $(COO)_2Sn$, $Sn(SCN)_2$, Sn(II) tartrate, Sn(II) fluoro-phosphonate and/or Sn (II) malonate. 8.9.77 as 740446 (24pp047)

WIEL- ★ D21 68212B/38 ★DS 2830-759
Silver based alloy for dental amalgam - includes small amt. of germanium to improve corrosion resistant and mechanical properties
FA WIELAND T 13.07.78-DT-830759
M26 (13.09.79) A61k-05/02 C22c-05/06 C22c-07

The alloy powder contains 65-73% Ag, 15% Cu, 10-29% Sn, $\not>$ 2%, Zn, and 0.5-5% Ge.

One pref. alloy contains 65-71% Ag, 12-15% Cu, 1-3% Ge, 16-18% Sn. Two other pref. compsns. are 68-72% Ag, 8-10% Cu, 1-3% Ge, 17-21% Sn and 65-70% Ag, 8-12% Cu, 2-4% Ge, 16-20% Sn. The powder is mixed with Hg in the conventional manner.

The use of Ge combines the advantages of a relatively low silver content reducing cost; avoidance of corrosive phases in the amalgam and expansion on setting; and good mechanical properties including low creep tendency. 13.7.78 as 830759 (2pp1144)

HERZ/ ★ D21 68276B/38 ★DT 2809-959
Permanently waving long hair without using rollers - by plaiting or braiding individual hair strands before chemical treatment
HERZOG K 08.03.78-DT-809959
(13.09.79) A61k-07/09

Hair, esp. long and very long hair, is permanently waved by plaiting the individual hair-strands and subjecting the plaited hair to a standard chemical permanent waving process. Pre-plaiting is partic. suitable for creating air-dried so-called 'crimped' hair-styles with long hair, without using rollers.

The hair is pref. braided by a 3-phase plaiting process partic. in towel-dry condition. 8.3.78 as 809959 (6pp200)

WELA ★ D21 68289B/38 ★DT 2810-130
Hair setting polymer or mesh fused by heating - avoids toxic hazards and environmental pollution caused by aerosols
WELLA AG 09.03.78-DT-810130
A96 (13.09.79) A61k-07/11

Hair setting compsn. consists of a polymer powder or mesh, which is applied to the hair and then fused by heating. The polymer pref. melts or softens at 35-120°C and is heated to 40-150°C, pref. using a heating hood or radiant heater.

The compsn. can be used on combed or brushed pre-set living hair or wigs of human, animal or artificial hair. It eliminates the need to use aerosols, with the associated high packaging cost and negative influences of the propellant gas and solvents. Environmental pollution is avoided. If a powder is used, the set is fixed only at points, which favours transpiration from the scalp. 9.3.78 as 810130 (12pp016)

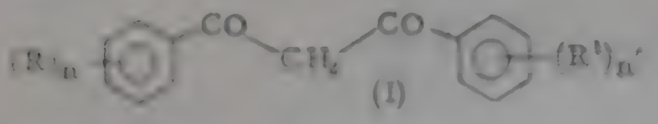
WHIT/ D21 63306Y/36 =GB 1552-868
Dental prod. for oral hygiene - consisting of cellular pref. foamed thermoplastic shaft enclosing dental care agents
WHITE M J E 18.02.76-AU-004899
*A96 P32 + P24 (19.09.79) *DT2706-199 A61c-15*

An oral hygiene device has a chewable stem of cellular material to clean tooth surfaces without damaging mouth tissues, and a connected fin to be drawn between teeth to clean the gaps. The fin pref. extends laterally and is longer than the stem, its projecting part being of increased width so that there is an overall rectangular shape.

The device is pref. of foamed polyethylene, polypropylene, polystyrene, PVC, polyurethane, cellulose acetate or polyethylvinylacetate, with an outer protective skin. The cells pref. hold a fluoride, incorporated as aqueously moist particles during extrusion. 18.2.77 as 006911 (5pp)

MERE D21 25232Y/15 =GB 1553-094
UV-absorbing dibenzoyl-methane derivs. - used in fat-based cosmetic sun-screening compsns.
MERCK PATENT GMBH 03.10.75-DT-544180
*E14 (19.09.79) *BE-846-851 A61k-07/42 C07c-49/76*

Cosmetic compsn. comprises ≥ 1 UV-absorbing cpd. of formula (I):



(where R and R^1 are independently opt. branched ≤ 8C alkyl; n is 0-3 and n′ is 1-3) together with ≥1 suitable lipophilic component.

Pref. (I) is used in wrt. 0.5-15 (1.5-8) wt.%. Pref. ≥1 known UV absorbing cpd. is also present and the total content of UV-absorbing cpds. is 0.5-15 (0.5-10) wt.%.

(I) practically completely absorb rays of 285-380 nm, possess good light stability and are very readily sol. in cosmetic solvents. 1.10.76 as 040802 (6pp393)

HENK D21 74163Y/42 =GB 1553-123

Hydroxy alkyl diamine or triamine betaine cpds. - used in hair shampoos and bubble baths

HENKEL KG AUF AKTIEN 15.04.76-DT-616800

*E16 (19.09.79) *BE-853-583 C11d-01/90 +C07c-101/30*

Cosmetic cleaning compsn. partic. for hair-washing and bathing, comprises a surface-active betaine of formula (I) and a carrier. $R^1\text{-}CH(OH)\text{-}CH(R^2)\left[NH(CH_2)_x\right]_y\text{-}NR^3R^4(CH_2)_zCOO^-$ (I) (where R^1 and R^2 are 1-18C aliphatic hydrocarbon and/or H, the total of C atoms for R^1 and R^2 being 9-18; R^3 and R^4 are each 1-4C lower alkyl or alkylol; x is integer of 2-4; y = 0 or 1 and z is integer of 1-4.

Pref. z = 1 and R^3 and/or R^4 are methyl. Pref. the compsn. contains 1-50 wt.% (I) of the total compsn. (I) provide improved fullness and gloss for hair and have good wet-compatibility. (I) have pleasant skin feel when used in bathing compsns. 14.4.77 as 015441 (8pp924)

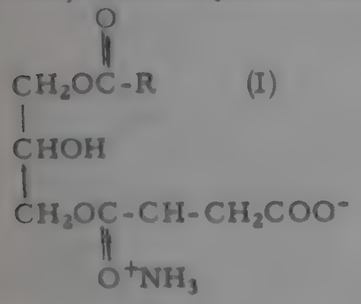
AJIN ★ D21 68632B/38 ★J5 4100-318

Fatty acid-aspartic acid ester of glycerine - prepd. by condensing glycerine fatty acid ester with N-block aspartic acid or its anhydride and removing blocking gp.

AJINOMOTO KK 24.01.78-JA-006546

E16 (D25) (08.08.79) C07c-101/22 C09k-03

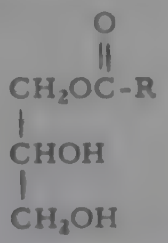
Fatty acid-aspartic acid ester of glycerine of formula (I)



$$\begin{array}{l}\overset{\displaystyle O}{\parallel}\\ CH_2OC\text{-}R\\ |\\ CHOH\\ |\\ CH_2OC\text{-}CH\text{-}CH_2COO^-\\ \quad\ \parallel\qquad |\\ \quad\ O\quad\ {}^+NH_3\end{array}$$

(I)

(where R is 7-17C hydrocarbon gp) is new. Mfr. of (I) comprises condensing fatty acid ester of glycerine of formula (II), with N-blocked aspartic acid or its anhydride to obtain fatty acid-N-blocked aspartic acid ester of glycerine and moving the blocking gp. by the usual process.



$$\begin{array}{l}\quad\ \ O\\ \quad\ \ \parallel\\ CH_2OC\text{-}R\\ |\\ CHOH\\ |\\ CH_2OH\end{array}$$

(II)

The cpd. is an amphoteric surfactant with respective desirable characteristics of anionic surfactant and cationic surfactant. The cpd. is non toxic and non irritant to skin. It is used as kitchen detergent, bar soap, shampoo, cosmetic cream, etc. 24. 1. 78 as 006546 (8pp57)

ITOS- ★ D21 68633B/38 ★J5 4100-319

Hydroxylating castor oil or its ricinoleic acid ester - by reacting it with aq. hydrogen peroxide soln. and catalyst, e.g. tungstic acid

ITO SEIYU KK 20.01.78-JA-005444

A60 G02 (08.08.79) C07c-67 C07c-69/67

The process comprises heating and reacting castor oil or its ricinoleic acid ester with 10-60% aq. H_2O_2 soln. and a catalyst. The catalyst is used in an amt. of 0.1-5 wt.% of the raw material and the aq. H_2O_2 soln. is used in an amt. of 10-100 wt.%. The reaction is carried out at ≤ 100, pref. 30-90°C in a short time. The catalyst is tungstic acid, tungsten trioxide, molybdic acid, molybdenum trioxide, etc.

As the hydroxylated prod. has greater polarity than the raw material due to increased hydroxyl value, and has considerable reactivity, it can be used for cosmetics. It is suitable as a compounding agent for coloured synthetic resin prods. and paints due to improved pigment dispersibility. 20. 1. 78 as 005444 (2pp57)

OREA ★ D21 B/38 ★J5 4101-441

Cosmetic composition for skin cleansing

L'OREAL SA 06.01.78-LU-00083

(10.08.79)

5. 1. 79 as 000065

KOBA- ★ D21 68823B/38 ★J5 4101-442

Undercoat for lipstick - consists of water-soluble high molecular cpd., poly:hydric alcohol, wetting agent and water

KOBAYASHI KOSEI KK 26.01.78-JA-007661

A96 (10.08.79) A61k-07/02

The undercoat is prepd. from (a) a water-soluble high molecular cpd. (I), (b) a polyhydric alcohol (II), (c) a wetting agent (III) and (d) water.

The material (a) gives an emollient effect to the lips, (b) prevents oozing of lipstick and (c) prevents dyeing of the lips with the tar pigment contained in lipstick.

(I) is e.g. gum arabic, algal colloid, sodium polyacrylate, PVA, PVP, tragacanth gum, Irish moth, hydroxypropylcellulose, hydroxyethylcellulose, Na CMC and/or methylcellulose, (II) is a sugar such as sucrose, glucose, etc., glycerin, sorbitol, mannitol, propyleneglycol, 1,3-butyleneglycol, dipropyleneglycol and/or polyethyleneglycol. (III) is a water-soluble silicon, water-soluble lanolin and/or a surfactant having a HLB > 10.0. Amts. of (a), (b) and (c) are 0.4-12 w/w%, 10-20 w/w% and 0.1-1.0 w/w% respectively, w.r.t. prod. 26. 1. 78 as 007661 (4pp5)

SANE ★ D21 68824B/38 ★J5 4101-445

Perfume compsn. - contains mixt. of maltol; chelating agent, e.g. poly: phosphate:and opt. dispersing or coating agent

SAN EI CHEM IND KK 27.01.78-JA-008696

E13 (10.08.79) A61k-07/46

The perfume compsn. contains (a) a homogeneous mixt. of maltol and a chelating agent such as polyphosphate or (b) a homogeneous mixt. of maltol, dispersing or coating agent such as gum arabic, etc. and chelating agent such as polyphosphate, etc., as the major component.

By using maltol together with the chelating agent, colouration with iron ions can be prevented and, in the presence of a dispersing or coating agent, the chelating agent is excellently dispersed to enhance prevention of the colouration of maltol.

As maltol, maltol, ethylmaltol, etc. can be used. Practically, the homogeneous mixt. can be prepd. either by mixing powdery maltol and powdery chelating agent or by adding maltol to an aq. soln. of chelating agent and spray-drying the soln. 27. 1. 78 as 008696 (2pp5)

UNIL D21 78024U/51 =J7 9025-090

Hair-spraying compsn - comprising a resin and polydimethylsiloxane polyoxyalkylene block copolymer

UNILEVER NV 26.05.72-GB-025111

*A96 (A25 A26) (25.08.79) *DT2325-645 A61k-07/11*

Compsn. comprising a cosmetic carrier, a hair-spray resin (e.g. polyvinylpyrrolidone) and title block copolymer (in which alkylene is ethylene or propylene) is improved in that the block copolymer has a silicon content of 15-25 wt. %, a mol.wt. of 1200-5000, and a viscosity of 3-10P at 25° C, and is present in an amt. of 0.5-15 wt.% the resin.

Its presence facilitates the subsequent removal of the resin from the hair by combing or brushing and ensures soft feeling and glossy outlook. 25. 5. 73 as 058523 (clg. 26. 5. 72-GB-025111) A61k-7/11 (25. 8. 79) UNILEVER N. V. (9pp) (J5 9041547)

MIYA/ D21 85861X/46 =J7 9025-091

Clear solid hair grooming agent - contg. silica to provide body

MIYAZOE T 24.03.75-JA-034289

*(25.08.79) *J51110-046 A61k-07/11*

Known material for hair grooming (e.g. oleyl, octyldodecanol, etc., higher alcohol; oils such as linseed oil, almond, peanut oil, cotton seed oil, fluid paraffin, etc. isopropyl(dibutyl(millistate(palmitate), etc.) is mixed with silicon dioxide in the presence of cationic surfactant, and the mixt. solidified, to give transparent solid hair grooming agent.

Solidification efficiency is good, has excellent transparency and bactericidal properties, does not harm the

in and does not degenerate specutacler material.
. 3.75 as 034289 A61k-7/11 (25.8.79) MIYAZOE, T.
pp) (J5 1110046)

ED D21 00487B/01 =US 4167-417
uorescent pigments for artificial teeth - comprise mixed yttrium, adolinium and or lanthanum silicate with cerium, terbium and anganese activators
RIEDEL DE HAEN AG 23.06.77-DT-728266
*E33 G01 L02 +P32 (11.09.79) *GB2000-174 C09k-11/16 +C09k-03*

luorescent inorganic pigment has the formula x. SE + a. Ce + b. Tb + c. Mn$)_2O_3$. SiO_2 (I) (where SE is ≥ 1 f Y, Gd and La; a is 2-10 mol. %; b is 2-10 mol. %; c is .5-2.5 mol. %; and x is 100-(a+b+c) mol. %. Pigment is repd. by heating x mol. % SE cpds. a mol. % Ce cpds. and 00 mol. % SiO_2 at > 1000°C, grinding, mixing with b mol. % Tb cpds. and c mol. % Mn cpds., heating at > 1000°C in reducing atmos. and grinding after cooling.

Pigment is used in artificial teeth giving the same optical behaviour as natural teeth in visible and UV light. 21.6.78 as 917584 (3pp982).

FRYS/ ★ D21 69888B/38 ★ZA 7802-334
Dentifrice compsn. - contains water soluble disclosing agent or dye visually indicating plaque on teeth
FRYSH H 24.04.78-ZA-002334
(04.05.79) A61k

See Also

D13 US 4167559 D23 US 4167518

D22: BANDAGES; DRESSINGS

EDX D22 29086S/17 =DS 2009-349
ynthetic vascular transplant and its manu- - facturing process
MEADOX MEDICALS INC 10.10.69-US-865326
*A23 F04 P32 (A96) (13.09.79) *DT2009-349 A61f-01*

ransplanting vessel having an elongate tube of larger ia. and a pair of integral tubular portions extending from ne end of the tube is warp knitted using fine titre polyester fibres. Vessel may be knitted such that its external urface is annularly ribbed, the ribs being later disposed n the inner face of the vessel following inversion of the nitted vessel.

Alternatively, the ribs may extend axially. Vessel has optimal porosity, which prevents inner bleeding following implantation and promotes healing process. Pref. the titre corresp. to 30 denier which has been found to be optimally compatible with human tissue. 27.2.70 as 009349 (6pp536)

HENK D22 69644U/46 =DS 2220-016
Epsilon-caprolactam - alkanediamine condensn prodn - bactericides fungicides and algicides
HENKEL KG AUF AKTIEN 24.04.72-DT-220016
*C02 E13 P34 (13.09.79) *NL7304-575 A01n-09/20 A61l-13 C07c-103/50*

Oligomeric mixts. of formula $RNHCH_2CH_2CH_2NH[CO(CH_2)_5$ $-NH]_nH$ are new. In the formula, R is a linear, (un)satd. 10-18C (pref. 12-14C) aliphatic hydrocarbon gp.; and n is 1-10. Prepn. of these mixts. comprises heating corresp. N-substd. propane-1, 3-diamines, (1 mole), with -caprolactam, (1-5 moles), at temps. above 180°, (pref. at about 250°), for 3-20 hr., pref. in the molten state or opt. in the presence of a solvent.

The prods. are effective antimicrobial agents and esp. useful algicides. 24.4.72 as 220016 (5pp047)

SCOP D22 23384U/17 =DS 2249-792
Modified cellulosic sheet - contg rayon/cotton fibres graft polymerised with meth) acrylic acid/sodium styrenesulphonate
SCOTT PAPER CO 08.10.71-US-187871
*A11 F09 (A14 A96 F06) (13.09.79) *NL7213-612 D06m-15/38 +D04h-01/40*

Long cellulose fibres (esp. rayon or cotton wool fibres) are graft polymerised with acrylic acid methacrylic acid or sodium styrenesulphonate, or their mixts. followed by conversion to the ammonium, alkali metal or organic amine salts. The resulting fibres, (about 6-50 mm length), are bonded with cellulose fibre fleeces in the wet fleece process. Pref. 10-50 wt. % graft polymer is present, esp. acrylic acid graft polymer. 6.10.72 as 249792 (6pp047)

SCHU D22 79374X/43 =DS 2516-670
Aldehyde disinfectants contg. alkyl-alkanal and or alkyl-alkanol - giving increased activity and lower volatility
SCHULKE & MAYR GMBH (STER) 16 04.75-DT-516670
*E17 P34 (13.09.79) *BE-840-548 A61l-13*

Disinfectant contains 1-5C mono- and/or di-aldehydes and also an alkylaldehyde of formula $R_1R_2CH-CHO$ and/or an alcohol of formula $R_1R_2CH-CH_2OH$ (where R_1 is a 3-5C alkyl and R_2 is a 1-3C alkyl). esp. 2-ethylhexanol and 2-ethylhexanol.

The disinfectant is useful in hospitals and clinics for the disinfection of surfaces. 16.4.75 as 516670 (4pp068)

BADI D22 00100A/01 =DS 2710-437
Water-soluble polyacrylic acid iodine complexes prepn. - using iodine and iodide salt in specified amounts, for use as disinfectants
BASF AG 10.03.77-DT-710437
*A14 P34 (A97) (13.09.79) *BE-858-225 C08f-08/22*

A polyacrylic acid-iodine complex is prepd. by mixing a polyacrylic acid of K-value 8-60 (14-80% based on total dry wt. of reactants) and 86-20% of a mixt. of iodine and iodide ions in equiv. ratio of 0.2-1.1:1 at 0-30° C with sufficient water to ensure complete solubility.

The complex is used as a disinfectant. 10.3.77 as 710437 (4pp068)

BOMM/ D22 84770Y/48 =DS 2733-729
Negative ioniser for purifying air in confined spaces - using a fan to ensure thorough air treatment and a unique silicon ultra-violet tube system
BOMMER R 27.07.76-FR-022831
*P34 R45 +P41 Q74 R49 (13.09.79) *BE-857-140 F24f-03/16 +C01b-13/11*

A negative ion producer for use in conjunction with air conditioning plant has on the air intake side an active filter followed by a grid, held at a high positive potential (or two with an offset relative to each other). The negative ions are produced in a tube which lies between this grid and another set of grids at high negative potential. This tube is a Venturi type at a high negative potential which encloses in its centre a germidical tube, made of silicon dioxide, to produce short UV rays.

The arrangement combines a high ionisation output with a simplified design. 26.7.77 as 733729 (4pp39)

HOEK- D22 70810A/40 =DS 2812-697
Wood preservative treatment - by applying a liq. water displacing agent into a cavity in the wood and sealing the cavity
HOEKA SIERPLEISTERS 29.03.77-NL-003412
*A82 C03 F09 P63 (13.09.79) *BE-865-442 B27k-03/02*

Wood treatment with a liq. or paste preservative comprises sealing the active components within a hollow or borehole in the wood. The compsn. contains a mixt. of water repellant, pref. solid paraffin or polysiloxane; a water-immiscible organic solvent of low valatility; and biocidal agent(s), also with low volatility, pref. $(Bu_3Sn)_2O$ and/or pentachlorophenol.

The compsn. is conveniently mounted within a plug having an absorbent lining impregnated with the active compsn., which is inserted into a bored hole in the timber and sealed. 23.3.78 as 812697 (5pp047)

DYNN ★ D22 68292B/38 ★DT 2810-142
Removing impurities of chlorinated phenol derivs. - by treatment with acetylene or its derivs.
DYNAMIT NOBEL AG 09.03.78-DT-810142
C03 E14 F09 (13.09.79) C07c-37/22 C07c-39/27

Method for removing impurities of chlorinated phenols (I) comprises treatment with acetylene and/or acetylene derivs. Suitably the material to be treated is mixed with finely-divided Ca carbide, then treated with water or steam. Alternatively an organic alkyne cpd. is used in an inert solvent, esp. acetylene dicarboxylic acid or propiolic acid esters, or ethereal oils derived from Boleko, Matricaria or Artemisia. During or after treatment the mixt. may be exposed to visible or UV light (to accelerate the reaction).

(I), esp. the tetra- and penta-chloro derivs. are fungistatics and bactericides esp. useful for treating wood, controlling slime in paper making and as harvesting aids for e.g. cotton. The (toxic) halogenated polycyclic impurities formed during mfr. are quickly and easily removed from (I) themselves or from equipment used in the process. A single treatment removes 90-98% of the impurities. 9.3.78 as 810142 (11pp1251)

MEDI- ★ D22 68313B/38 ★DT 2810-536
Skin disinfection by spraying from atomiser bottle - pref. filled with benzethonium chloride dissolved in isopropanol
MEDICE CHEM-PHARM 10.03.78-DT-810536
P34 (13.09.79) A61l-13

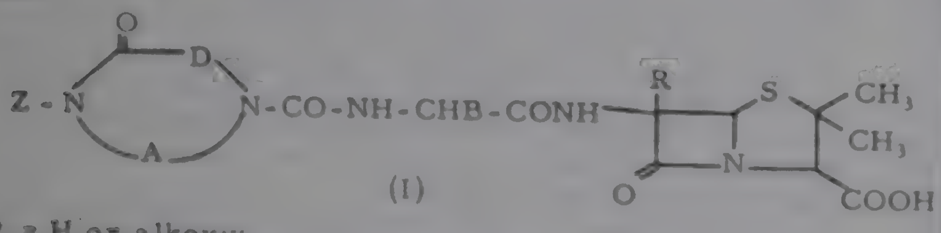
A small disinfectant-filled, advantageously replenishable bottle fitted with a finger pressure-activated spray-device, e.g. a perfume atomiser bottle, is used for disinfecting skin areas by spraying before injections, inoculations, minor surgical interventions, home-injuries, acupuncture etc.

The use of a disinfectant compsn. contg. 0.3% benzethonium chloride, pref. dissolved in 70% isopropanol and admixed with 0.6% sage oil is claimed.

An exactly measured -out disinfectant quantity can be sprayed on skin zone to form a film of disinfectant. The use of cotton swabs is obviated. Economy in disinfectant allows the use of a higher-grade more active disinfectant compsn. 10.3.78 as 810536 (7pp200)

FARB ★ D22 68416B/38 ★EP ---3-992
Heterocyclyl-carbonylamino-acetamido-penicillin derivs. - useful as broad-spectrum antibacterials, e.g. as animal growth stimulants
BAYER AG 08.03.78-DT-810083
A60 B02 C02 (19.09.79) A61k-31/43 C07d-405/12 C07d-413/12 C07d-417/12 C07d-499/70
D/S: E(BE, CH, DT, FR, GB, IT, NL).

Penicillin derivs. of formula (I) in free-acid form, are new:



(I)

(R = H or alkoxy;
B = opt. substd. furyl, pyrrolyl, pyrazolyl, imidazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxdiazolyl, thiazolyl, 2-imino-Δ^4-thiazolin-4-yl, isothiazolyl, thiadiazolyl, oxtriazolyl, thiatriazolyl, sydnonyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, triazinyl, tetrazinyl or pyronyl;
A = ethylene, trimethylene or o-phenylene;
D = carbonyl gp. or direct bond;
Z = H, alkyl, alkenyl, cycloalkyl, cycloalkenyl, cycloalkadienyl, aralkyl, aryl or heterocyclyl (all opt. substd.) or acyl).

(I) are broad-spectrum antibacterials effective against e.g. Gram-negative species and β-lactamase producers, and are more active and/or better tolerated than known cpds. of similar structure. They are useful therapeutically, to stimulate growth and improve feed utilisation in animals, and to preserve materials such as polymers, lubricants, paper, etc.

20.2.79 as 100495 (48pp1251).
(G) ISR: —

GEFI- ★ D22 68492B/38 ★EP ---4-
Retaining asepsis of a sterile web of bags during filling - enclosing filling pipe with sterilising boot which is in turn attach to bag web
GENERAL FILMS INC 15.03.78-US-886921
Q31 (19.09.79) B65b-43/12 B65b-55/10
D/S: E(CH, DT, FR, GB, NL, SW).

Asepsis of a sterile web of bags is retained as the web i fed onto the filling pipe of a packaging machine. A leading end of the web is attached to a sterilizing boot enclosing the pipe. The boot is sterilized by directing a sterilizing agent into the boot. Attached adjacent walls of the boot and web are pierced by a pointed end of the filling pipe, and the sterilized pipe is positioned within the sterile web of bags without destroying the sterile condition of the pipe or the web.
13.3.79 as 300395 (17pp1044).
(E) ISR: US4021283; GB1114976.

CAME- ★ D22 68493B/38 ★EP ---4-2
Disposable plastics splint or stretcher - which is lightweight stron waterproof and penetrated by X/rays to eliminate movement o injured limb
CAMELIA MFG CO LTD 07.07.78-CA-306981 (14.03.78-CA 298887)
A96 P32 P33 (19.09.79) A61f-05/04 A61g-01
D/S: E(DT, FR, IT, NL, SW).

A splint or stretcher is formed from a light, strong and relatively rigid corrugated plastics material which is radiolucent. It comprises a first elongated panel membe having a pair of spaced longitudinal fold lines which divid the member into a base and a pair of side walls. A second elongated panel member extends longitudinally of the first member and includes a pair of spaced longitudinal fold lines which are aligned with those of the first member. The second panel member is pivotable about a fold line extending laterally between the longitudinal fold lines The panel members include cooperating tabs and cut-out portions to lock the second panel member in a posn. perpendicular to the first panel member.

The prod. is used for immobilizing an injured upper arm, elbow, forearm, wrist, lower leg or ankle. It is lightweight, strong, waterproof, cheap and can be penetrated by X-rays to eliminate unnecessary movement of an injured limb.
14.3.79 as 300396 (42pp1044)
(E) ISR:- US3857390; US3850167; US2409195; FR-753986; FR1515909; US3110307; US3750660.

SCGR ★ D22 68495B/38 ★EP ---4-211
Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - with formaldehyde, added as polyoxymethylene, in conc. reaction medium
SOC CHIM GRANDE PAROISSE 15.02.78-FR-004210
A25 E16 (19.09.79) C07c-79/18
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Prepn. of 2-nitro-2-methylpropan-1-ol (I) comprises reacting 2-nitropropane (II) and HCHO in molar ratio 0.9 - 1.1 : 1 in conc. medium, HCHO being added mainly as polyoxymethylene. Reaction is in presence of 1-10 meq. of mineral base catalyst per mole (II) for 1-48 hrs. at 40-58°C and pH 7-11. (II), HCHO and catalyst are added in that order, in presence of 1.5-10 wt.% water (on total reaction medium wt.).

Process avoids prior art concn. and selective extn. steps with associated solvent recycling and gives prod. in e.g. > 95% yield and > 95% purity. (I) is esp. useful as a bonding agent in tyre prodn., as a bactericide and as a source of HCHO in basic medium.
6.2.79 as 400075 (9pp949).
(F) ISR: US2139120; FR1260172; DS1046600; FR1590483; US3560575.

AJM- ★ D22 68510B/38 ★EP ---4-239
terilising and vacuum sealing rack - esp. for linen in plastic bags, as auxiliary racks to speed up operation
MAJ SARL 13.03.78-FR-007107
P34 Q31 (19.09.79) A61l-03/02 B65b-31/02 B65b-51/14
D/S: E(BE, CH, DT, GB, IT, LU, NL, SW).

An arrangement for maintaining under vacuum, articles, esp. linen, in plastic wrappings, conditioned and sterilised in an autoclave, includes at least one shelving rack supporting a number of parallel bars. There are a number of packages in the form of bags of plastic material, impermeable to the air, and open at one end. These are supported in the rack in such a way that the open end of each package is located between two adjacent bars of the number supported by the rack. Elements are fixed to the parallel bars by which the bag open ends are compression sealed.

The parallel bars are fixed securely to the rack so as to form slots of a predetermined size between the compressing and sealing elements, the slots being open at at least one end. The packages are supported by at least one auxiliary rack, with six rectangular faces. This can be introduced into the main rack in a direction parallel to the lengthwise direction of the slots from the side where their ends are open.

The design eliminates the delay of 15 to 20 mins. necessary with similar installations to allow for the cooling down of the packages, before they can be handled, without the expense of two separate main racks and their expensive equipment. The simplicity of the present design reduces considerably the maintenance work necessary. The packages are laid flat so that the folded linen inside does not collapse on itself, and the packages are easily stacked. When the main rack is withdrawn from the autoclave, the auxiliary racks can be replaced by others already loaded with packages for treatment.
7.3.79 as 400146 (15pp1014).
(F) ISR: —

CAMB/ ★ D22 68523B/38 ★FR 2411-011
Air purifier which diffuses disinfecting deodorising vapour - by sublimation of block in perforated box which is self adhesive to flat surface
CAMBON A 06.04.77-FR-010355
P34 (10.08.79) A61l-09

Non-toxic, air purifier for fixing in ducts, ventilator openings, on walls etc. is of the type which diffuses a disinfectant, deodorising vapour into the atmos. and does not require any movement or any power for circulating fans etc..

The vapour is now produced by sumblimation of a solid block of disinfectant material. The block is housed in a box which has an open grill in one side to allow vapour to escape. The box is easily fixed to a wall by means of a double-sided, pressure-sensitive, adhesive patch on an external face of the box.

Device can be installed by unskilled labour, on horizontal, vertical or inclined surfaces. Vapour diffusion proceeds continuously. 6.4.77 as 010355 (4pp448)

FIRS- D22 09379Y/06 =GB 1552-641
Surgical dressing comprising film forming protein - and protein reacted with hypochlorite esp. gelatine
FIRST PATENT DEV CO (BUNY/) 06.08.75-US-602410
*P34 +P32 (19.09.79) *BE-844-904 +C07g-07*

An antiseptic dressing is formed of a film of biologically acceptable film-forming proteinaceous substance and a prod. formed by the stoichiometric mixing of hypochlorite and protein. The active chlorine concn. is ⩾ 0.5%. The wt. of the film forming substance is at least the weight of the protein in the prod.

Pref. the film forming substance is fibrin, collagen, gelatin, alginate and animal skin. The film forming substance and the protein are pref. the same.

The dressing is both antiseptic and non-poisonous to tissue. 5.8.76 as 032745 Add to 1422795 (6pp1376)

BRDC ★ D22 68556B/38 ★GB 1552-692
Operating theatre disposable headwear - has crown and side panels of resin bonded nonwoven web and joined by single stitching line
BARD C R INT LTD 13.03.76-GB-010179
A83 F07 P21 (A11 A14 A60) (19.09.79) A42b-01

Headwear comprises a crown and a side panel, the two panels being joined and the side panel ends joined all by a single row of stitching. The side panel is pref. bias cut with oblique ends, and has a hem holding an elastic element.

The headwear is pref. of flame-proof nonwoven fabric comprising a viscose rayon carded web bonded with acrylic polymer and with an ammonium phosphate based mixt. of salts padded onto the web. 13.6.77 (3pp1358)

FARH D22 88959X/48 =GB 1552-861
Water absorbent cellose ethers - prepd. by etherification and crosslinking in an aq. reaction medium
HOECHST AG 07.05.75-DT-520337
*A11 (A96) (19.09.79) *DT2520-337 C08b-11/20*

Water adsorbing but (partially) water-insoluble cellulose ether is prepd. by etherifying cellulose in such a manner that a water-soluble cellulose ether would be produced and, in the absence of isopropanol, cross-linking. The cross-linking agent is dichloroacetic acid, phosphorus oxychloride or a cpd. contg. an acrylamido, chloroazomethine or allyloxyazomethine gp.

Pref. the cellulose ether is CMC, (carboxymethyl) hydroxyethyl- or methyl hydroxyethyl-cellulose. Pref. crosslinking is such that ⩾ 50 wt.% is insol. Pref. cellulose is etherified and then crosslinked. 5.5.76 as 018473 (4pp974)

PITT D22 94671X/51 =GB 1552-919
Ultraviolet light irradiation plant - with first radiators and reflectors for centre and second for selvages of workpieces
PPG INDUSTRIES INC 02.06.75-US-583311
*A35 J04 P34 +P42 Q71 R45 (19.09.79) *DT2624-224 B01j-01/10*

A U.V. light processor comprises a support for the workpiece, and prim. and sec. means for exposing its surface to U.V. light. These two devices are so positioned relative to the support such that the U.V. flux from the prim. means incident per unit area of support surface is greater at the centre than at the edges, and the flux from the sec. means is greater at the edges than at the centre. The prim. means includes a linear source of U.V. light.

Uniform exposure to U.V. light is obtd. 28.5.76 as 022222 (9pp976)

COLG D22 68424Y/38 =GB 1553-034
Disposable diaper with absorbent pad - having two layers formed from different fluffs
COLGATE PALMOLIVE CO 09.08.76-US-713086
*P32 +P21 P34 (19.09.79) *US4047-531 A41b-13/02*

A disposable absorbent article, e.g. a diaper, has an absorbent pad between fluid impervious backing and fluid pervious cover sheets, the pad having two layers the first formed of fibres selected from mechanical, thermomechanical and semi-chemical fluff and the second of fibres selected from thermomechanical, semi-chemical or chemical fluff and the two layers being of different material with the fibres of the second being more hydrophilic than the first.

Pref. the second layer is next to the backing sheet. A third layer of chemical pulp is pref. disposed between the cover sheet and the first layer. 26.7.77 as 031335 (6pp1376

SALK/ D22 43528Y/25 =GB 1553-132
Disinfectant compsn. contg. polymer solvent - forming film on surface thereby increasing effectiveness
SALKIN N 26.02.76-FR-005396
*A97 P34 (19.09.79) *BE-851-506 A61l-13*

Liq. disinfecting compsn. comprises an aq. or water-dispersible polar solvent, ⩾1 film-forming polymer soluble in the solvent and a disinfectant. The mixt. is capable after application to a substrate of drying under ambient atmospheric conditions, to form an air-permeable and hydroscopic film from which the disinfectant is gradually released.

Pref. solvent is water and/or an alcohol, the polymer is PVP (copolymer) and the disinfectant is chlorohexidine. Specifically the copolymer is obtd. from vinyl pyrrolidone and vinyl acetate. Pref. the compsn. also contains wetting agent, plasticiser, buffer, perfume etc.

The compsn. can be used for cleaning exposed surfaces in the foodstuffs industry, in the plucking of fowls etc. 12.2.77 as 007373 (5pp924)

LIOC ★ D22 68817B/38 ★J5 4101-425

Insecticide for use on clothes - comprises acetoxime as major component

LION DENTIFRICE KK 24.01.78-JA-006400

C03 E16 F06 (10.08.79) A01n-09/20

Insecticide for clothes contains as major component acetoxime. The active cpd. shows high controlling effect to harmful insects (e.g. larvae) of clothes. It has an effect as high as p-dichlorobenzene. It does not etch or plasticise plastics and can be used safely. No trouble is caused even if it is used in combination with other active components. Addition of naphthalene brings about duration of the effect. The active cpd. does not contaminate or discolour clothes. 24.1.78 as 006400 (3pp108)

FUSO- ★ D22 68855B/38 ★J5 4101-764

Deodorisation of gas contg. hydrogen sulphide, amine or fatty acid - by mixing with ozone at high temp. and high humidity then contacting with hydrogen peroxide spray

FUSO KK 30.01.78-JA-008291

E36 (10.08.79) B01d-53/34

Gas which contains H_2S, amine(s) and/or fatty acid(s) as malodorous component(s) is mixed with ozone under conditions of high temp. and high humidity and the resulting gas mixt. is contacted with sprayed hydrogen peroxide to effect deodorisation.

The malodorous component(s) of the gas, can be decomposed and removed at high efficiency and at low cost. The amt. of hydrogen peroxide and ozone used is very small (the concn. of H_2O_2 is 0.03-3% and the amt. of the O_3 w.r.t. the gas being treated is pref. 0.5-2 ppm) and after reaction with the gas almost all the hydrogen peroxide is decomposed, thus secondary pollution or industrial waste treatment problems can be avoided. 30.1.78 as 008291 (3pp55)

HASH/ ★ D22 68856B/38 ★J5 4101-765

Removing foul smelling odour from air - by treating with fused paraffin liq. to remove solvents and then with non-(hypo)chlorite oxidising agent

HASHIDA H 28.01.78-JA-008498

P34 (10.08.79) A61l-09/ B01d-53*

Air with foul-smell contg. an organic solvent vapour, is first contacted with fused paraffin liquid in order to remove the organic solvent from the air, and the treated air is then contacted with an aq. soln. contg. an oxidising agent except a chlorite or a hypochlorite.

Treatment is used for purifying air having foul-smell which is produced e.g. in a waste water treatment process or various factories, etc. The causes of the foul-smell are various (in)organic cpds. such as mercaptan, amines, etc. These can be completely decomposed and absorbed by using a combination of easily available oxidising agents such as a permanganate, a dichromate etc. 28.1.78 as 008498 (3pp55)

ENDO/ ★ D22 68866B/38 ★J5 4101-782

Exothermic chemical compsn. for hot compress - comprises anhydrous calcium chloride, sodium hydroxide and chemical relaxation agent, e.g. starch

ENDOH R 30.01.78-JA-009011

E33 (E34) (10.08 79) C09k-05

Compsn. comprises a mixt. of 1 pt. wt. of anhydrous calcium chloride, 0.2-2 pt. wt. of sodium hydroxide and an exothermic relaxation material (I) such as starch (at a ratio of mixt./relaxation material of 1 pt. wt./0.1-1 pt. wt.)

By adding (I) the heat emission can be controlled, the heat emission time can be extended, and the total amt. of the exothermic agent can be increased, thus the quality as a hot compress can be improved. 30.1.78 as 009011 (2pp [illegible]

ISHI- ★ D22 68872B/38 ★J5 4101-7

Release, lubricating, delustering, antiseptic or flameproofing age - for metal, plastic, glass, wood, paper, etc., contains organic bor cpd(s).

ISHIHARA YAKUHIN KK (KAWI) 30.01.78-JA-009120

A60 (10.08.79) C09k-03

The agent (I) contains ≥ 1 organic born cpd. (II) of formula $BR_n(OR')_{3-n}$ (where R is alkyl, alicyclic hydrocarbon heterocyclic hydrocarbon or one of their derivs.; R' is H, alkyl, aromatic hydrocarbon or one of their derivs. an n = 0-2.)

(II) is e.g. tri(m)ethyl borate, ethyl dimethoxy borane, diethyl boran hydroxide, etc. When (II) is painted on the surface of a material with an opt. organic solvent, it is hydrolysed by moisture in the air and forms a solid film of fine boric acid crystals. 30.1.78 as 009120(3pp42)

DAKY ★ D22 69241B/38 ★J7 9025-08

Coated cataplasm agent - comprising substrate layer, adhesive active ingredient, heat and water absorbing agents, all covere with peeling paper

DAIKYO YAKUHIN KOGY 25.03.74-JA-033822

(25.08.79) A61k-09/70

On a substrate layer are coated adhesive component and active ingredient, and then heat absorption agent and water-retaining material, and the surface of the resultant is coated with a peeling paper. 25.3.74 as 033822 A61k-9/70 (25.8.79) DAIKYO YAKUHIN KOGYO KK (2pp22) (J5 0126824)

KHPH= ★ D22 69602B/38 ★SU -638-589

N-Acetyl epsilon-aminocaproic acid prodn. - by hydrolysing N-acetyl-caprolactam in boiling water with subsequent freezing, for use in medicine as wound and bone fracture healing agent

KHARK PHARM CHEM 18.07.77-SU-507583

E16 (28.12.78) A61k-31/19 C07c-101/04

N-acetyl-ε-amino-caproic acid, which is used as a base in preparations promoting the healing of wounds and fractured bones, is produced by hydrolysis of N-acetyl-ε-caprolactam. The yield is increased by effecting the hydrolysis in boiling water for e.g. 5h. and then keeping the reaction mass at -10° to -25°C for e.g. 48h. The product is subsequently isolated by filtration.

By this method high-purity product is obtd. (purity $\geq$ 98.5%) so that there is no need for recrystallisation. The optimal ratio lactam:water is 1:1 to 1:3. The yield is 28.8-30.9% theor. The product is dried at $\leq$ 60°C. The m.pt. of the title cpd. is 104-106°C.

Yasnitskii, B.G., Dolberg, E.B., Spivak, A.L., et al Bul.47/25.12.78.18.7.77.as507583(2pp70).

INTE- D22 18397B/10 =US 4167-045

Cardiac and vascular implantation prostheses - comprising support with surface layer pref. of aluminium, protein, agar or acrylamide polymer

INTERFACE BIOMED LA (SAWY/) 26.08.77-US-827952

*A96 P32 (11.09.79) *EP-----949 A61f-01/24*

Prostheses for implantation in bloody environments, e.g. cardiac and vascular prostheses, consist of a 'Dacron' support covered with a material which can exhibit a regular periodic surface change. This is agar, and the support is pref. woven.

The prostheses have minimal thrombogenicity. 26.8.77 as 827952 (12pp903).

MOOC D22 59675Y/34 =US 4167-378

Cellulosic fibre matting prodn. - using load conditions at the surface milling stage to control supply of fibres to form the matting NL 9.8.77)

MO OCH DOMSJO AB 10.09.76-SW-010047 (06.02 76-SW-001328)

*F09 P32 (11.09.79) *DT2704-219 B29c-13 B29d-07*

Appts. for making uniform density cellulose pulp batts comprises a dry-pulp shredder and defibrator depositing a batt on a foraminous support, a miller to remove pulp fibres from the batt surface, a sensor determining loading on the miller, and a controller responsive to the load to increase or decrease defibrated pulp feed.

The pulp feed may be varied in response to measurement of the amount of fibre removed from the batt. The miller operating torque is pref. measured. Fibre

moved by the miller may be thrown in the same direc-
n as the air-borne fibre feed to be re-entrained.
2.77 as 765508 (10pp1358).

OR ★ D22 69767B/38 ★US 4167-464

ater-absorbent films and fibres prepn. - by photopolymerisation a mixt. of neutralised acrylic acid and alkyl (meth)acrylate(s) ng a photoinitiator

GOODRICH B F CO 16.10.78-US-951906

A14 F01 (A96) (11.09.79) C08f-02/46 C08f-04

n interpolymer is prepd. by photopolymsn. of (a) 50-90 t.% of acrylic acid, 70-100 (80-100)% of the CO_2H gps. aving previously been neutralised with alkali metal or H_4^+ base, (b) 2-25wt.% acrylate of formula $H_2 = CR^1-CO_2R$, (c) 5-30wt.% acrylate of formula $H_2 = CR^1-CO_2R^2$, and (d) 0.01-5wt.% photoinitiator vhere R^1 is H, Me or Et; R is 10-30C alkyl; and R^2 is -8C alkyl); 0-50% of (c) is replaced by a (meth)acrylic itrile or amide.

Films and fibres are prepd. which strongly absorb ater, urine, blood, etc., e.g. for use as disposable iapers, flocculants in water treatment in metallurgy, oil treatment, etc. The prods. are strong and flexible. 6.10.78 as 951906 (6pp904).

NIL ★ D22 69821B/38 ★US 4167-561

isinfecting surfaces with inorganic hypochlorite aq. soln. - which lso contains alpha-hydroxy-beta sulpho:succinate, the ypochlorite being destroyed by heating after surface treatment

LEVER BROS CO 09.06.75-US-583360 (28.12.73-US-429453)

E37 (11.09.79) A01n-11

rocess for disinfecting surfaces with an inorganic hypo- hlorite (I) soln. so that most of the (I) is destroyed after ne disinfection comprises (a) treating the surface with n aq. soln. contg. (I) (cation being an alkali(ne earth) netal or H or mixts.) and an alkali(ne earth) metal α- ydroxy-β-sulphosuccinate salt (II) and (b) heating the soln. ntil $\nless$75% of (I) is destroyed. Mol. ratio (I) : (II) is .01-2:1, and the soln. in (a) has pH 2-9.5.

Stable, aq. disinfecting soln. effectively disinfects urfaces, etc. After the desired time interval, any (I) (in ontact with the surface or in soln.) is readily destroyed. n addn., the (I)-(II) soln. also has bleaching, detergent, equestrant and descaling properties on hard surfaces. .6.75 as 583360 (+28.12.73-US-429453) (5pp478).

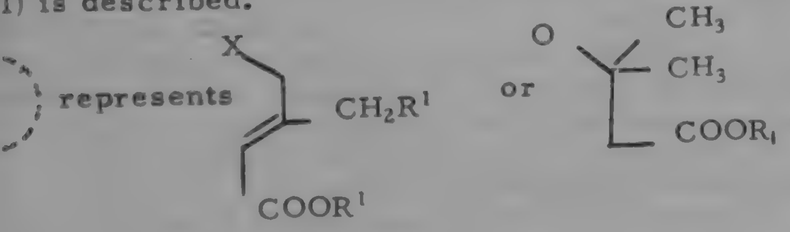
ERI ★ D22 69851B/38 ★US 4167-630

pimerising beta-lactam antibiotic cpds. - by forming Schiff base, eating with base followed by acid addn. and reacting with acid pt. in presence of amine

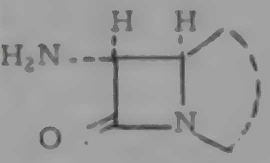
MERCK & CO INC 19.05.77-US-798287 (06.11.72-US-303906)

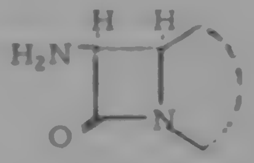
B02 C02 (11.09.79) C07d-239/70 C07d-263/52 C07d-265/12

he epimerisation of β-lactam antibiotic cpds. of formula I) is described.



(where R_1 is an easily removable ester blocking gp; R' is I, halo, lower alkanoyloxy, carbamoyloxy, furyl, thienyl, hia(dia)zyl, pyrroyl or tetrazolyl, each opt. substd. with 1-6C alkyl; X is a divalent radical, -O-, $-CH_2-$ or -NQ- and Q is H, formyl, benzyl or lower alkyl.)


(I)


(II)

In the process, (i) the cpd. is reacted with an aromatic or aliphatic aldehyde or ketone to produce an aldimino cpd. (Schiff base) intermediate, (ii) the intermediate is treated with a base sufficiently strong to convert the aldimino cpd. to its anionic form, the treatment being conducted in the presence of an aprotic solvent and opt. a dipolar aprotic co-solvent, followed by addn. of a molecular excess of a 1-5C carboxylic acid; and (iii) reacting the cpd. produced with acid opt. in the presence of an amine, the product of formula (II) being recovered.

The epimerisation prods. can be acylated to give broad-spectrum antibacterial cpds., salts of these cpds. being useful as bacterial growth inhibitors in paper mill water and in paints such as PVAc latex paints. The parent patent (72314Y/40) described the prepn. of similar β-lactam cpds. in which ⁾ represents a S-contg. moiety 19.5.77 as 798287 Div. 4051132 (+6.11.72, 13.11.72, 12.12.72, 29.12.72, 13.3.73, 16.4.73, 23.1.74, 24.12.75 -US-303906, 306066, 314484, 319945, 340804, 350543, 436014, 644250) (17pp990).

FRTI- ★ D22 69864B/38 ★ZA 7706-023

Wood treatment - by applying to smoothed surface a preservative comprising an insecticide, a fungicide and a water repellent, and dipping in protective paint

FRENCH TIMBER IND 07.10.77-ZA-006023

C03 F09 P63 (09.04.79) B27k

TUCK/ ★ D22 69883B/38 ★ZA 7801-975

Plant splint - has a support of sheet material with fasteners along one core

TUCKER C N 06.04.78-ZA-001975

P32 (03.05.79) A61f

See Also

D13 EP --3960	D13 EP --4073	D13 US 4167579
D15 EP --4217	D15 J5 4101769	

D23: OILS; FATS; WAXES

INFL ★ D23 68152B/38 ★BE -876-005

Diluted liq. perfume compsn. - contg. opt. hydrogenated terpene or alpha-methyl styrene dimer as extender

INT FLAVORS & FRAGR INC 10.07.78-US-923183 (30.05.78-US-902436)

E19 (03.09.79) A61k

Compsn. having a single liq. phase comprises (i) an undiluted perfume component (I), plus (ii) a diterpene (II) and/ or hydrogenated diterpene (IIa) and/or (iii) a dimensation prod. (iv) of α-methylstyrene, or a dimenisation prod. (IVa) of hydrogenated α- methylstyrene. (IV) and (IVa) may be replaced by dimers of methyl homologues of α-methylstyrene.

(I) is esp. $\geq$ 1 natural and/or synthetic perfume and component (ii) is esp. $\geq$ 1 20 C cpd. made by dimerising $\geq$ 1 monocyclic terpene each with 2 double bonds; $\geq$ 1 bicyclic terpene contg. 1 double bond, or one mono- and one-bicyclic terpenes, or their hydrogenation prods. or mixts.

Components (ii) and (iii) extend (I) without reducing its odour characteristics. 3.5.79 as 876005 (+3.5.78 - US - 902565)(88pp1251)

WARN D23 52378T/33 =DS 2202-469

Terpene reodorants - for odour-improving compsns

WARNER-LAMBERT CO (WARP) 20.01.71-US-108212

*E15 (13.09.79) *DT2202-469 A61k-07/16*

Oral deodorant compsn. comprises a component with odour masking properties, esp. flavouring additives, an oral non-toxic carrier, the usual additives and in addition 10 to 2000 pts. wt. per million of α-ionone. Typical additives are sweetening agents, solvent aids, colouring, buffer agents and diluents. 19.1.72 as 202469 (6pp047)

UNIC D23 23879Y/14 = DS 2641-821

(2)-Phenyl ethanol prepn. from styrene oxide - by controlled catalytic liquid phase hydrogenation in inert diluent

UNION CARBIDE CORP 23.09.75-US-616024

*E14 (13.09.79) *DT2641-821 C07c-29 C07c-31/16*

2-Phenylethanol is prepd. by hydrogenating styrene oxide in the liq. phase with H_2 in a closed reaction zone in the presence of Raney-nickel as catalyst and isopropyl alcohol as solvent. Reaction is effected at 50-120 °C and a pressure of ⩾28.4 bar in a half-continuous process. Styrene oxide is supplied at a rate such that the amt. of unreacted styrene oxide in the reaction zone does not exceed 0.2 wt.%, based on the wt. of solvent plus 2-phenylethanol.

Under these conditions by-product formation is reduced 2-phenylethanol is useful in the perfume industry. 17.9.76 as 641821 (6pp068)

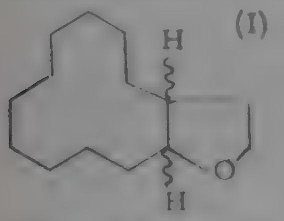
HENK ★ D23 68286B/38 ★DT 2810-107

13-Oxa-bi:cyclo-(10.3.0)-penta:decane - obtd. from cyclododecanone, used as perfume for cosmetics, detergents, textile-treatment agents etc.

HENKEL KG AUF AKTIEN 09.03.78-DT-810107

E13 (13.09.79) A61k-07/46 C07c-35/02 C07c-69/74 C07d-307/93 C11b-09 C11d-03/50

New bicyclopentadecane deriv. is 13-oxa-bicyclo [10.3.0] pentadecane of formula (I).



(I)

(I) is useful as a odorant with a warm amber note combined with good adhesiveness. It can be used in odorant compsns in a concn. of 1-50 wt%. Such compsns can be used directly as perfumes or for perfuming cosmetics, etc. or for improving the odour of technical products such as detergents, rinse aids, textile-treatment agents etc. 9.3.78 as 810107 (7pp280)

HENK D23 68286B/38 = EP ---4-052

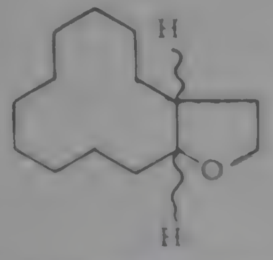
13-Oxa-bi:cyclo-(10.3.0)-penta:decane - obtd. from cyclododecanone, used as perfume for cosmetics, detergents, textile-treatment agents etc.

HENKEL KG AUF AKTIEN 09.03.78-DT-810107

*E13 (19.09.79) *DT2810-107 C07d-307/93 +C07c-35/02 C07c-69/74 C11b-09*

D/S: E(BE, CH, FR, GB, NL).

13-Oxa-bicyclo[10.3.0]pentadecane of formula (I) is new:



(I)

(I) is useful as an odorant with a warm amber note combined with good adhesivess. It can be used in odorant compsns. in a concn. of 1-50 wt.%. Such compsns. can be used directly as perfumes or for perfuming cosmetics, etc., or for improving the odour of technical products such as detergents, rinse aids, textile-treatment agents, etc.

5.3.79 as 100645 (9pp280).

(G) ISR: DS2209372; DT2136496; 1 Journal Reference.

GIVA D23 27537Y/16 = GB 1552-857

Disulphide perfume and/or flavouring materials prepn. - from organic cpds. contg. sulphur and mercaptans NL050477)

GIVAUDAN L & CIE SA 01.10.75-CH-012728

*E19 (D13) (19.09.79) *DT2644-201 A61k-07 46 C07c-149/30 C07d-207/32 C07d-213 71 C07d-233 84 C07d-239 38*

Novel disulphides are of formula (I) $R_1.Y_n.S.S.R_2$ (where R_1 is (substd.) phenyl or furyl or (substd.) monocyclic gp. contg. N and/or S and opt. also O as hetero atom(s); R_2 lower alk(en)yl; Y is opt. (di)substd. methylene and; n = 0-5; but if n = 2-5, R_1 is phenyl or furyl).

Specifically cpds. include 2- phenylethyl-ethyl-disulphide. (I) are used as odorant and/or flavouring compo e.g. for detergents, perfumes, foods, drinks, tobacco etc 1.10.76 as 040816 (18pp974)

VITA/ ★ D23 B/38 ★IT 1031-9

Olive oil prodn. by-products processing appts.

VITAGLIANO M 24.02.75-IT-020557

(10.05.79) A23k

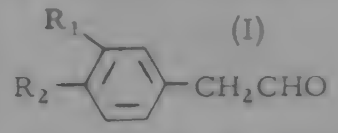
SAGA D23 77504T/49 = J7 9025-0

Phenylace:aldehydes prepn. - by hydrolysis of 2-phenyl-1-alkyl (phenyl) thio-ethylsulphoxides

SAGAMI CHEM RES CENTRE 30.04.71-JA-027998

*B05 E14 (24.08.79) *DT2219-455 C07d-317/54*

Cpds. of formula (I): (where R_1 is H or lower alkoxy; R_2 is H, halogen or lower alkoxy; or R_1+R_2 is lower alkylidenedioxy) ar



(I)

prepd. by acid hydrolysis of a cpd. (II) of formula [(I); $-CH_2CHO$ is $-CH_2CH[S(O)R_1][SR_3]$, in which gps. R_3 are the same and may be lower alkyl, or phenyl] pref. at 0-70, esp. 9-70°C, in an inert solvent.

(II) are pref. prepd. by reacting the corresp. 3-R_1-4-benzyl halide with R_3-SO-CH_2SR_3 in the presence of a metallising agent, esp. in an aprotic solvent at -80 to +7 C, in which case (II) need not be isolated. (I) where R_1+R =isopropylidenedioxy is novel. Cpds. (I) are inters. for pharmaceuticals, and / (I); R_1=R_2=H/ is a perfume. 30.4.71 as 027998 C07d-317/54 (24.8.79) SAGAMI CHEMICAL RESEARCH CENTER (3pp) (J4 7042671)

TAKS D23 10052V/06 = J7 9025-09

Perfume compsns - with fresh flower scent

TAKASAGO PERFUMERY KK 28.00.72-JA-002203

*E17 (25.08.79) *J48072-342 +A61k-07/46*

Perfume compsns. having fresh flower scent contain 6-methyl-2-methylene-7-octene-1-ol (I) as a component. I is prepd. e.g. by pyrolysing 1.5 dimethylcyclooctene (obtd. from isoprene) to give 2,6-dimethyl-1,7-octadiene (II), treating (II) with AcOH, and heating the product with Al isopropoxide.

In an example a perfume compsns. having lily scent contained hydroxycitronellal 20, α-amylcinnamaldehyde 15, indole 5, citronellol 10, terpineol 5 geraniol 3, rosinol 7 (phenylethyl)dimethylcarbinol 3, cis-jasmone 1, citral 1, linalol 2, nerolidol 3, and I 10 wt.%. 28.12.71 as 002203 A61k-7/46 (25.8.79) TAKASAGO PERFUMERY CO. LTD. (3pp) (J4 8072342)

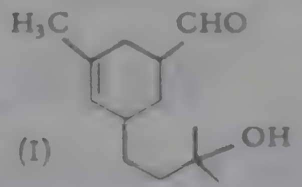
TAKS D23 58716V/33 = J7 9025-09

3-Methyl-5-(3-methyl-3-hydroxybutyl)-3 cyclohexen carboxaldehyde - having linden flower scent, used in perfumes cosmetics, soaps, cleaning and washing compsns

TAKASAGO PERFUMERY KK 26.01.73-JA-010768

*E15 (25.08.79) *DT2403-631 A61k-07/46*

New cpd. of formula (I) is produced by (a) reacting 2,7-dimethyl-1,5,7-octatriene with gaseous SO_2 at 60-100°C;



(I)

(b) treating the prod. with H_2SO_4 at 0-10°C; (c) saponifying the resulting sulpholenesulphate with an alkali metal hydroxide at 45°C to produce the corresp. sulpholene alcohol; (d) heating the latter to 100-150°C; and (e) reacting the resulting 2,7-dimethyl-5,7-octadiene-2-ol with aerolein at 80-170°C.

Steps (a), (d) and (e) are carried out in presence of an oxidation inhibitor, e.g. hydroquinone. An inorganic base, e.g. Na_2CO_3, must be present during step (d). 26.1.73 as 010768 A61k-7/46 (25.8.79) TAKASAGO PERFUMERY CO. (4pp) (J4 9094841)

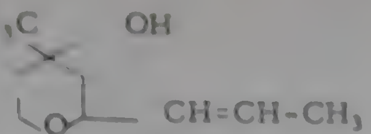
AAOR= ★ D23 69610B/38 ★SU -638-59

4-Methyl-2-propenyl-tetra:hydro-pyran-4-ol prepn. - by condensing 2-methyl-butenol with crotonaldehyde in aq. mineral acid, used i perfumes and cosmetics

AS ARMN ORG CHEM 24 02 77 SU 455528

E13 (28 12 78) C07d 309 10 C11b-09

4-Methyl-2-propenyl-tetrahydro-pyranol-4(I) is of the formula (I)



(I)

The formation of (I) involves condensn. of 2-methyl-buten-1-01-4(II) with crotonaldehyde(III). The reaction is carried out by heating the reagents in an aq. medium in presence of inorganic acid catalyst, pref. H_2SO_4 or H_3PO_4 or ion-exchange resins in H-form.

The condensn. is carried out for 4-6 hrs. at 50-60°C, using the starting reagents pref. in the equimolar ratio. This prevents formation of dihydropyrans. The acids are pref. of 20-30% strength in the amt. of 10-30 wt. % of the starting reagents. Use of less dil. acids as given is not recommended.

The method offers advantage of using cheap and easily available starting reagents. The cpd. is described as new. Gevorkyan, A. A., Kazaryan, P.I., Filatova, G.G., et al Bul. 47/25.12.78. 24.2.77. as455528(2pp48).

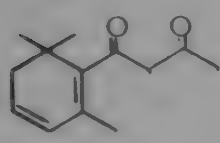
INFL ★ D23 69790B/38 ★US 4167-497

Modifying, enhancing the aroma of perfume compsns. or colognes - by addn. of equilibrium mixt. contg. 1-(2,6,6 trimethyl-1,3-cyclohexadien -1-yl)-1,3-butane-di:one

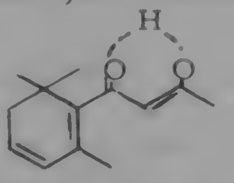
INT FLAVORS & FRAGR INC 17.11.78-US-961877 (17.03.78-US-887630)

E15 (D13) (11.09.79) A61k-07/46 C11b-09

An equilibrium mixture contg. 1-(2, 6, 6-trimethyl-1, 3-cyclohexadien-1-yl)-1, 3-butanedione of formula (I) and the tautomer (II) is added to a perfume compsn. or cologne to augment, alter, modify or enhance its aroma.



(I)



(II)

Perfume compsn and colognes having sweet, honey-like, fruity, grape-like, rose-like, ionone-like, hay-like, and floral aromas with sea-amber and ambergris-like undertones and sweet-floral topnotes may be obtained. The 1, 3-butanedione deriv. of formula (I) and the tautomer (II) are claimed in US4157351. 17. 11. 78 as 961877 Div. ex 4157351 (20pp990).

KAOS D23 27461Y/16 =US 4167-518

Removing allergenic cpds. from lanolin and derivs. - by chromatography with magnesium silicate adsorbent and nonpolar solvent

KAO SOAP KK 09.10.75-JA-122331

*(D21) (11.09.79) *DT2636-789 + A61k-07/48 A61k-47*

A non-allergenic lanolin is claimed, contg. no substances with Rf values <0.38 when subjected to a thin-layer chromatography test, where the adsorbent used is a magnesium silicate having a thickness of 0.25mm. and the solvent is chloroform.

A further non-allergenic lanolin is claimed, contg. no substances with Rf values < 0.14 when subjected to similar thin-layer chromatography tests using a benzene solvent. The lanolins used are hydrogenated lanolin, acetylated lanolin, lanolin fatty acid, lanolin alcohol, acetylated lanolin alcohol or ethoxylated-acetylated lanolin alcohol.

The lanolins prepd. are used as a base for drug ointments, for cosmetic creams and lotions. 24. 8. 76 as 717403 (3pp931).

UYSC- D23 08771A/05 =US 4167-519

Olein and stearin fraction separation from on oil - by mixing with a single phase mixt. of a poly:ol or water and a polar organic liq.

UNIV SC MALAYSIA 07.03.75-GB-009698

*(11.09.79) *GB1499-333 + C09f-05/10 C11b-03*

Olein and stearin fractions are recovered from an oil contg. those fractions by providing a fluid comprising the oil with a liq. single-phase mixt. having a density between those of the fractions to be sepd. at a temp. $<$ m. pt. of the stearin fraction, and at which the liq. mixt. is insoluble in the oil.

The proportion of oil to liq. mixt. is 10:1-1:10 by vol. The oil is then sepd. into olein and stearin fractions by physical separation into layers and recovering them. The single-phase mixt. consists of ≥ 30 vol. % of water or $\geq$ 20 vol. % of ≥ 1 aliphatic alcohol contg. 2-3 hydroxyl gps. per molecule and having a mol. wt. $< 1,000$; and ≤ 80 vol.% of ≥ 1 polar organic liq. which is a monohydric 1-5C aliphatic alcohol, aldehyde or ketone.

The oils used are esp. derived from vegetable, animal or fish oils, including palm oil, rice bran oil, tallow, lard, herring oil, cotton seed oil and olive oil. 23. 9. 77 as 836240 (+6. 2. 76-US -655974) (5pp931).

See Also

D16 J5 4101487

D24: SOAP; SOAP DETERGENTS

HENK D24 56144T/35 =J7 9025-043

Crockery rinsing agent - contg low foaming bio-degradable alkylene/alkanol addition products

HENKEL & CIE GMBH 12.02.71-DT-106819

*A97 + P43 (25.08.79) *BE-779-279 C11d-01/72*

Rinsing agent for use in crockery washing machines is based on low foaming surfactants and contains products formed by the addition of 5-20 moles C_2H_4O and 1-10 moles C_3H_6O to 10-20C aliphatic sec. alcohols. 10. 2. 72 as 014098 (clg. 12. 2. 71-DT-106819) C11d-1/722 (25. 8. 79) HENKEL & CIE GMBH (5pp) (J4 7018908)

D25: OTHER DETERGENTS

RHON ★ D25 68133B/38 ★BE -874-808

Sequestrant for washing compsns. contg. peracid salts - comprising cpd. of gluco-heptonic acid and magnesium

RHONE-POULENC INDUSTRIES 14.03.78-FR-007247

E12 (13.09.79) C11d

The pref. cpd is magnesium glucoheptonate esp. the dl c cpd. The sequestrant pref also contains a magnesium silicate with an SiO_2/MgO ratio of 1. 5-3. 5; also an organic sequestrant from EDTA, DTPA (diethylenetriamine sodium pentaacetate) or their derivatives, esp hydroxy derivatives. The ratio of Mg atoms to mols of glucoheptonate is pref above 0. 5, esp 0. 6-1 and the ratio of Mg atoms to mols of organic sequestrant is pref above 0. 5, esp 0. 6-2. The agent is pref. associated with a support, esp. magnesium silicate, silica or its derivs.

The pref. cleaning compsn contains 5-40% sodium perbonate, 5-40% sodium tripolyphosphate, 5-30% surfactant, 5-30% of sodium silico-aluminate, 5-20% of sodium silicate and 0.05-5% sequestrant agent, which is pref. formed in situ in the suspension before drying.

The cleaning compsn. are usually washing powders. The sequestrant is effective esp for Fe, at pH 8-9 unlike EDTA the sequestrant power of which for Fe falls rapidly at this pH. Also it is stable to peroxide cpds unlike sodium glucoheptonate. 13.3.79 as 874808 (10pp597)

HENK D25 76396S/48 = DS 2110-060

Carboxamides prepn from carboxylic acids or esters and ammonia - or amines and metal cpd catalysts

HENKEL KG AUF AKTIEN 03.03.71-DT-110060
*E16 (13.09.79) *BE-767-636 C07c-103/34*

Prepn. of N-substd. carboxylic amides comprises condensn of 8-24C carboxylic acids (or their esters), with prim. or sec. aliphatic, cycloaliphatic or mixed aliphatic/cycloaliphatic amines in the presence of 0.1-10 (0.5-5) wt.% catalyst (based on the acid or ester), at up to 300(120-200)°C. The catalyst comprises soluble Ti, Zr or Ta cpds., partic. alkyl orthoesters, halogen cpds., acyl cpds. and/or 1,3-diketone complexes.

The prods. are used as washing and cleansing aids, crystallisation agents, solvents and intermediates. 3.3.71 as 110060 (8pp047)

LIOY D25 09497W/06 = DS 2432-523

Spray-dried granules of washing or cleaning compsns. - treated with alcohol or liquid aroma agent and coated with metal soap powder

LION FAT & OIL KK 04.07.73-JA-074864 (04.07.73-JA-074863)
*(13.09.79) *DT2432-523 C11d-11*

Process for improving the quality and properties of granular washing and cleansing agents comprises grinding these materials with a mixt. of > 1 1-4C alkanol and/or 2-3C diol, (0.1-1 wt.%), or liq. perfume of the terpene, phenol or aromatic alcohol type (0.5-1 wt.%).

This is followed by or used simultaneously with a powdered Ca or Mg soap (0.3-15 wt.%), of 16-22 C fatty acids, with particle size < 100 µm. Pref. perfumes are linaloaol, terpinol, geraniol, eugenol, $PhCH_2CH_2OH$ and/or $PhCH_2OH$. 4.7.74 as 432523 (6pp047)

PROC ★ D25 68458B/38 ★EP ---4-108

Prodn. of intimate mixt. of N-based cationic surfactant - and water-soluble dispersible cpd., by quaternising tert. amine in liq. medium which constitutes cpd., using volatile quaternisation agent

PROCTER & GAMBLE CO 07.03.78-GB-008989 (06.03.78-GB-008778)
A97 E19 (19.09.79) C07c-85/02 C11d-01/62

D/S: E(BE, CH, DT, FR, GB, IT, NL).

Prodn. of an intimate mixt. of a nitrogen-based cationic surfactant and a water-soluble or -dispersible cpd. comprises (i) quaternising a tert. amine to form a cationic surfactant in a liq. reaction medium comprising a water-soluble or -dispersible cpd. of mol. wt. > 240, one of the quaternisation reactants being volatile relative to the other reactant(s) and having a b.pt. (atmos.) of ≤200°C, and the volatile reactant being present in stoichiometric excess; and (ii) treating the mixt. at $\ngtr$ 200°C to remove any unreacted volatile reactant and leave an intimate mixture in which the ratio of organic reaction medium to cationic surfactant is 50-1:1-2.

The mixt. can be used either in its own right for delivering a cationic surfactant in a variety of physical forms (e.g. as a granule, chip, flake, noodle or agglomerate), or as an adjunct to conventional granular detergents. Most pref. it is used as a source of cationic surfactant in the sheet-type laundry additive product described in EP appln. no. 200051/78.

By using a reaction medium which is itself a component of the final prod., but which is liquid under the conditions employed for quaternisation, there can be obtd. the desired cationic surfactant as a finely divided dispersion (or in some cases a soln.) without the need to use solvents which require recovery or disposal. The necessity of isolating the surfactant and separately adding it to the product is avoided. The process is inexpensive and commercially attractive.

1.3.79 as 200099 (23pp914)
(E) ISR: DT1543024; DT2256234; DT2657582.

PROC D25 61476B/33 = EP ---4-109

Body imparting fabric treating compsn. - contg. alkali-treated starch and surfactant

PROCTER & GAMBLE CO 13.03.78-US-885925
*(19.09.79) *US4162-983 +C11d-01/12 C11d-03/38 D06m-15/04*

D/S: E(BE, DT, FR, GB, IT, NL).

Liq. compsn. for restoring body to fabrics contains (a) 1-25% gelatinised stabilised vegetable starch, prepd. by treating starch in water dispersion at pH 10-13 and then neutralising to pH 4-9; (b) 5-50% anionic, nonionic, zwitterionic and/or amphoteric surfactant; (c) ≤ 25% electrolyte and (d) 25-94% water. The compsn. has a pH of 4-11.

The compsn. can be used for simultaneously providing fabric care benefits and a solvent removal action for fabrics exposed to washing media contg. water-insoluble solvents. It can also be used in fabric care applications requiring a combination of sizing effect and detergency. The gelatinisation - stabilisation procedure renders the starch resistant to retrogradation.

2.3.79 as 200100 (28pp914).
(E) ISR: GB1429911; US3892681; DT2420532.

PROC ★ D25 68459B/38 ★EP ---4-111

Fabric care compsn. - contg. smectite clay, gelatinised vegetable starch and opt. water

PROCTER & GAMBLE CO 13.03.78-US-885933
(19.09.79) C11d-03/38 D06m-13/46 D06m-15/04

D/S: E(BE, DT, FR, GB, IT, NL).

A fabric care compsn. comprises (a) 0.5-75% smectite clay chosen from alkali(ne earth) metal montmorillonites, saponites, hectorites and their mixts. having an ion exchange capacity of ≥ 50 meq./100 g; (b) 1-90; gelatinised vegetable starch; and (c) 0-98% water.

For use, the compsn. is added to an aq. laundry washing or rinse medium to provide 50-500 ppm of the starch and 30-400 ppm of the clay.

The compsn. provides a desirable firm, crisp structure with a soft surface to fabrics treated in dispersions contg. it. It is particularly useful when used in conjunction with mixts. of water-insol. solvents and solvent-soluble emulsifiers in aq. washing media followed by treatment with compsns. incorporating surfactants to remove residual solvent from the fabrics.

2.3.79 as 200102 (32pp914)
(E) ISR: US3936537; DT2355321; DT2636673; US3712873.

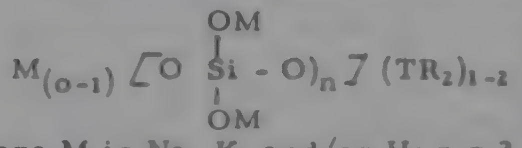
PROC D25 48921B/26 = EP ---4-112

Capped silicate cpds. - useful as detergency builders, corrosion inhibitors, and structure formers for detergent compsns., etc.

PROCTER & GAMBLE CO 13.03.78-US-885932
*A26 E11 M14 (19.09.79) *US4157-978 C11d-03/08 +C01b-33/32 C07c-51/52*

D/S: E(BE, CH, DT, FR, GB, IT, NL).

(A) Capped silicate cpds. of formula (I) are new.



$$M_{(o-1)} [O \overset{OM}{\underset{OM}{Si}} - O)_n] (TR_2)_{1-2} \qquad (I)$$

(where M is Na, K, and/or H; n = 2-1000; T is Al, Ti, Zn, Zr, Sn, V, Mo, W, Se and/or Ge; R is 2-30C acyl contg. 0-5 additional carboxylate gps.).

(B) Spray dried detergent compsns. contg. 1-40% (I), 5-96% of a detergency builder other than (I), and 3-50% of a detergent surfactant are new.

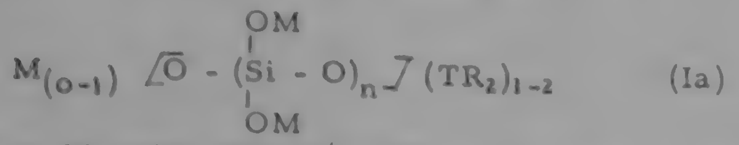
(I) are useful as detergency builders, corrosion inhibitors and structure formers etc. in formulating detergent compsns. Unlike known silicates, (I) have a reduced tendency to polymerise further and crosslink and hence form insol. prods. In addition, spray dried detergent

5.3.79 as 200105 (28pp914).
(E) ISR: None given.

OC D25 48921B/26 =EP ---4-113
pped silicate cpds. - useful as detergency builders, corrosion hibitors, and structure formers for detergent compsns., etc.
PROCTER & GAMBLE CO 13.03.78-US 885932
*A26 E11 M14 (19.09.79) *US4157-978 C01b-33/28 C08l-83/02 C11d-03/08 C11d-11/02 + C07c-53/10*
/S: E(BE, CH, DT, FR, GB, IT, NL).

pray dried detergent compsn. contains 3-50% of a detergent surfactant, 1-40% capped alkali metal silicate (I) nd 5-96% of a detergency builder other than (I).

Pref. (I) is a cpd. of formula (Ia).


(Ia)

$$M_{(0-1)}\,[O-(\overset{OM}{\underset{OM}{Si}}-O)_n]\,(TR_2)_{1-2} \qquad \text{(Ia)}$$

where M is Na, K and/or H; n = 2-1000; T is Al, Ti, Zn, r and/or Sn; and R is 2-30C acyl contg. 0-5 additional arboxylic gps.).

(I) acts as a detergency builder, corrosion inhibitor nd structure former in the compsn. Unlike known silicates, (I) has a reduced tendency to polymerise further nd crosslink and hence form insoluble prods. In addtion, spray dried granules contg. (I) are less hygroscopc, more free-flowing and firmer than conventional granles.

5.3.79 as 200106 (28pp914).
(E) ISR: None given.

PROC ★ D25 68460B/38 ★EP ---4-121
Low phosphate laundry detergent compsn. - contg. polyethoxylated nonionic surfactant and quat. ammonium cationic surfactant
PROCTER & GAMBLE CO 22.11.78-US-962822 (13.03.78-US-885931)
A97 E19 (19.09.79) C11d-01/83
Intermediate Priorities: 18.9.78; 6.10.78 - US-943419; 949182.

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

A low phosphate laundry detergent compsn. comprises 5-100% of a surfactant mixt. consisting of (A) a nonionic surfactant of formula $R(OC_2H_4)_nOH$ (where R is (on ave.) 10-18C primary alkyl and n = 2-9) having an HLB of 5-14, and (B) a quat. ammonium cationic surfactant having 2 chains which contain an ave. of 16-22C. The ratio (A) : (B) is 2-9 : 1.

The compsn. contains $\leqslant$15% phosphate and $\leqslant$10% silicate materials, is free from ethoxylated cationic surfactants contg. (on ave.) >10 moles ethylene oxide per mole, and has a pH in the laundry soln. of >7.

The compsn. yields exceptionally good removal of particulate soil from fabrics, and also provides fabric softening, static control, colour fidelity, and dye transfer inhibition to the laundered fabrics, without requiring the use of builders, fabric softening additives and/or static control additives. Also the compsn. is relatively insensitive to water hardness.

10.3.79 as 200120 (41pp914).
(E) ISR: US3812046; EP----416; EP----595; DT2742007; DT2511677.

RHON ★ D25 68504B/38 ★EP ---4-225
Synthetic alkali silico-aluminate prodn. - with simultaneous mixing and crystallisation under heating, by reacting alkali hydroxide with sources of silica and alumina
RHONE-POULENC INDUSTRIES 02.03.78-FR-005939
E33 (19.09.79) C01b-33/28 C11d-03/12
D/S: E(BE, DT, GB, IT, LU, NL).

Prodn. of alkali silico-aluminate (I) from source(s) of SiO_2 and Al_2O_3 and an alkali hydroxide, $\geqslant$1 being added as a solid, comprises simultaneous mixing and (partial) crystallisation, under heating, until a solid phase is obtd. which is held until redispersion of the medium as a suspension.

Process is pref. at 60-150°C, crystallisation taking 30 min.-6 hr. Pref. SiO_2 source is Na silicate with SiO_2:Na_2O molar ratio 1-4. Pref. Al_2O_3 source is powdered Na aluminate with Na_2O:Al_2O_3 molar ratio 1-1.5, or, at least in part, hydrated Al_2O_3. A clay may be used as a single source of SiO_2 and Al_2O_3.

Prod. are partic. useful in detergents.

27.2.79 as 400119 (29pp949)
(F) ISR: FR--83942; US4075280; FR2347322; FR2386484; DT2722564; DT2722535.

CAUB- ★ D25 68538B/38 ★FR 2411-234
Liquid washing product contg. a sodium alpha olefin sulphonate - used for washing hands and dishes
CAUBET & FILS SARL 08.12.77-FR-037583
E12 (10.08.79) C11d-01/14 C11d-03/34
The pref. ingredients are a sodium paraffin sulphonate (80%), a sodium lauryl ether sulphate (10%) and a sodium α-olefin sulphonate (10%). The ingredients are mixed with 30-40% of the required amt. of water at 30°C. The remaining water is pref. added at ambient temp. together with perfume and colourant.

The product is used for washing the hands and in dishwashing. The use of the above additive increases the degreasing capacity and the ability to remove stains stuck to a solid surface and also gives a shinier surface to the dishes. 8.12.77 as 037583 (4pp597).

KAOS- D25 26988A/15 =GB 1552-710
Detergent compsn. contg. aluminosilicate in place of poly:phosphate - pref. together with polyoxyethylene-contg. surfactant and phosphate, amino poly:acetate, hydroxy carbonate or polymer electrolyte salts
KAO SOAP CO LTD (KAOS) 06.12.76-JA-146727
*A97 E33 (19.09.79) *BE-861-414 C11d-03/12 + C11d-01/02*
Detergent compsn. comprises a surfactant and a water-insoluble phosphorus-contg. alkali metal aluminosilicate of formula $(x(M_2O).Al_2O_3.y(SiO_2).z(P_2O_5).w(H_2O))$ (I). M is Na or K; x,y,z and w are mole numbers where x is 0.5-1.1, y is 0.8-2.5, z is 0.05-0.8 and w can be O. Pref. compsn. contains 3-95(8-50) wt.% (I).

(I) satisfies the requirements of a detergent builder (Ca ion exchange capacity as Mg ion exchange capacity of >100 mg/g, calculated as $CaCO_3$). Compsn. may also contain other alkali metal salts e.g. condensed phosphates, aminopolyacetates, hydroxycarboxylates, polymeric electrolytes (e.g. polyacrylates). 5.12.77 as 050558 (14pp963)

LIOY ★ D25 69143B/38 ★J5 4103-406
Reformation of granular detergent - by adhering calcium carbonate to the entire surfaces of the detergent granules
LION FAT & OIL KK 01.02.78-JA-010011
(14.08.79) C11d-11
Solidification by moisture absorption of granular detergent having low P content, e.g. comprising 10-40 wt.% of anionic surfactant and 5-20 wt.% of alkali metal silicate, having phosphoric acid-type builder content of <15 wt.%, is effectively suppressed without any deterioration on its washing strength, by adhering $CaCO_3$ having a mean granular size of 2-5μ to the entire surfaces of the detergent granules in an amt. of 0.5-5 wt.% based on the amt. of the detergent.

When the granular size of the granular detergent is smaller than the above range, the solidification of the granular detergent is more effectively suppressed in moisture adsorption, but the solubility of $CaCO_3$ in H_2O is simultaneously increased esp. in the presence of surfactant and builder, so as to lower the washing strength of the detergent, so it is preferable to adjust the granular size within the above range. 1.2.78 as 010011 (4pp34)

KAOS D25 79894X/43 =J7 9025-514
Hypochlorite bleach compsns - contg. aromatic perfume to mask odour of chlorine
KAO SOAP KK 02.11.73-JA-123691
*A97 E34 F06 P34 (28.08.79) *J50074-581 + C11d-07/54*
Na hypochlorite laundering bleach compsns. with good effective Cl retention and contg. aromatic perfume to mask the Cl odour are prepd.

In an example, an aq. compsn. contg. NaClO 5.5, $p-C_9H_{19}C_6H_4O(CH_2CH_2O)_8-CH_2CO_2Na$ 3.9, NaOH 1.0, and 4-tert-butylcyclohexanol 0.5% had no Cl odour, gave bleached towel free from Cl odour, and has effective Cl retention (20hr, 50°) 66%. 2.11.73 as 123691 C11d-7/54 (28.8.79) KAO SOAP KK (6pp)(J50074581)

COLG ★ D25 69782B/38 ★US 4167-487

Activating inorganic water-soluble per-oxygen cpds. - by dissolving in water and treating with N benzoyl- or N-meta-chlorobenzoyl-2-methylimidazole

COLGATE PALMOLIVE CO 03.06.74-US-475817 (28.05.69-US-828782

E13 F06 (11.09.79) C11d-03/39 C11d-07/54

Inorganic H_2O-soluble peroxygen cpds. (I) are activated by dissolving in H_2O and treating with an imidazole deriv. (II). (II) is (a) N-benzoyl-2-methylimidazole or (b) N-m-chlorobenzoyl-2-methyl-imidazole. Mol. ratio active O_2 of (I) : (II) is 0.5-16:1. (I) is suitably a perphosphate, urea-H_2O_2 etc., pref. Na percarbonate or Na perborate. Amt. used is to give 2-60 ppm of active O_2 in the wash soln.

(II) have good stability and are partic. effective activators for (I). The Compsns. contg. (I) and (II) are partic. useful for the removal of stains and the general cleaning of fabrics. 3.6.74 as 475817 C.i.p 3640874 (+28.4.71, 7.6.73-US-138373, 367995) (5pp478)

DRAK ★ D25 69783B/38 ★US 4167-488

Compsn. for hard surface cleaning of e.g. ovens - contains alkanolamine, water-insolubilised polysaccharide and water

DRACKETT CO 31.08.77-US-829374

A97 E16 (A11) (11.09.79) C11d-07/22

Compsn. for hard surface cleaning contains $\nless$ 5wt.% of an alkanolamine (I); 0.3-1.5wt.% of an H_2O-insolubilised polysaccharide (II), and $\ngtr$ 93.5wt.% H_2O. (I) is mono-, di-, or triethanolamine or mixts. (II) has OH and CO_2H gps., and the ratio range of the free acid form to salt form of the CO_2H gps. is 0.07-3:1.

Pref. (II) are starch, natural gums, esters and ethers of starch or natural gums or cellulose, or mixts.; esp. a carboxyalkyl cellulose ether (e.g. Na CMC) which has been cured as described in US3379720; partic. compsns. pref. contain 0.6-1.0% by wt. of (II).

Compsn. readily penetrates burned-on deposits of food and other organics on ovens, pots etc., but does not form a hard outer layer on the deposit, and is not as strongly alkaline as conc. caustic alkali. 31.8.77 as 829374 (4pp478).

FARH D25 88709V/52 =US 4167-6

Surface-active fluoro-sulphosuccinates - derived from maleic anh dride and perfluoroalkyl alcohols, useful as wetting agents or dispersants

HOECHST AG 09.06.73-DT-329660

*E19 (11.09.79) *BE-816-122 C09g-01/08*

Fluorinated sulphosuccinates of formula R-O-CO-CH_2-C (SO_3M)-COOR^1 are new. In (I) R is of formula Rf-(CH_2)m-(OCH_2CH_2)n (where Rf is straight chain or terminal Me- branched 2-8C perfluoroalkyl, m = 1-4 and n = 0-3). M is H, alkali metal, NH_4, mono, di or tri ethanolammonium, glycinium, taurinium, N-methyltaurinium; R^1 is as R or as M.

(I) are useful as surfactants, esp. wetting agents, levelling agents in wax emulsions or as dispersants. A specific cpd. is (I) where Rf is n-C_6F_{13}, n = 0, m = 2, M is Na and R^1 is Na. 17.2.78 as 878881 (+6.6.74, 12.2.76 -US-477321, 657549) (6pp964).

BADI ★ D25 B/38 ★ZA 7804-23

Liq. detergent-bleach concentrate of high alkalinity - contg. alkal metal hypochlorite, alkali metal salt of alkylated di:phenyl oxid sulphonic acid alkali metal hydroxide and chloride

BASF WYANDOTTE CORP 27.07.77-US-819261

(20.06.79) C11d-03/39

A cleaning and bleaching liquid compsn. consists of an aq. soln. of (A) 2-15 wt.% of an alkali metal hypochlorite, (B) 15-200 wt.% of an alkali metal salt of an alkylated diphenyl oxide sulphonic acid w.r.t. alkali metal hypochlorite, (C) 5-20 wt.% of an alkali metal hydroxide, and (D) an alkali metal chloride. 26.7.78 as 004238 (16pp)

See Also

D13 US 4167523 D13 US 4167524 D15 BE 874818
D21 J5 4100318

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

EIGE/ 24.01.75 EIGENMANN L A93 *DT 2602-948
Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75 EIGENMANN L A93 L02(A21) *DT 2602-947
Bonding fluid for road marking strips - 60223X/32

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

09125-X ACDF
US 3933-788 X05+
CA -990-674 X26
09192-X BC
US 3933-948 X05
BE -832-423 X10
NL 7509-762 X10
DT 2535-514 X11
SW7509-042 X15
NO7502-837 X16
SF 7502-292 X19
ZA 7504-766 X21

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or ≠ sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

US 3963
#636 36477U A97D15M14
*645 49861X A41E19J04
=646 19776V A41E19J04
=647 21100X A17+R4
=650 06289S A22
#651 24399W A97K05L02M22
=652 73248V A12
=653 70544V A81G03
*654 49862X A88H01Q4
*655 49863X A81G03

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg natural rubber, hydrated 49862X/26 *US 3963-654
CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying earth in dams 49433X/26 *DT 2554-327
CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by cultivating a species of 48076X/26 *CA -990-668
CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

AAOR= 24.02.77 AS ARMN ORG CHEM D23 E13 *SU -638-597
4-Methyl-2-propenyl-tetra:hydro-pyran-4-ol prepn. - 69610B/38

AGRI- 14.02.74 AGRICULT PRODN VEG C03 D13 =IT 1031-742
Foodstuff, esp. milk substitute, produced from legume seeds - 57465W/35

AJIN 18.02.74 AJINOMOTO KK D16 =IT 1031-826
Peptidase prepn from cladosporium microorganism - 80641W/49

AJIN 24.01.78 AJINOMOTO KK D21 E16 (D25) *J5 4100-318
Fatty acid-aspartic acid ester of glycerine - 68632B/38

ALBR 18.12.73 BUSH BOAKE ALLEN D13 E17 =CH -612-834
Aromas for non-coagulated milk prods. - 44375W/27

ALBR 09.12.77 ALBRIGHT & WILSON LTD D25 E19 =FR 2411-232
Prepn. of conc. surfactant mixt. forming liq. lamellar phase - 47415B/26

ALBR 09.12.77 ALBRIGHT & WILSON LTD D25 E19 =FR 2411-233
Prepn. of conc. surfactant mixt. forming liq. lamellar phase - 47415B/26

ALFA 07.04.77 ALFA-LAVAL AB D13 E36 (D16) =GB 1553-176
Prevention of bacterial growth in milk - 77709A/43

ALFA 31.01.78 ALFA-LAVAL AB D16 E17 =SW 7801-133
Continuous prodn. of ethanol - 60966B/33

*ALFA 31.01.78 ALFA-LAVAL AB D16 E19 *SW 7801-134
Liq. organic cpd. prodn. by fermentation of carbohydrate material - B/38

ALLD/ 12.09.77 ALLDREDGE R L D15 J01 =ZA 7805-138
Graded sand filter with reusable imperforate diaphragm - 15841B/08

*ALMI= 01.03.78 AS LATV MICROBIOL A97 C03 D13 *DT 2808-803
Feed-concentrate powder polymer coating - 68219B/38

*ALTA= 11.03.77 ALTAI DAIRY PROD D16 (D13) *SU -637-431
Selection of lactic flora streptococci for dairy industry - 69353B/38

AMCY 24.01.78 AMERICAN CYANAMID CO A14 D15 (A97) #J5 4102-298
Scale inhibition using anionic polymer(s) - 15726A/08

AMCY 02.02.78 AMERICAN CYANAMID CO B04 C03 D16 (D13) =DK 7900-435
Animal feed supplements for increasing growth rate - 61831B/34

*AMFP- 13.02.75 AMF PADOVAN SPA D16 *IT 1031-709
Autoclave for sparkling wine prodn. - B/38

AMMO 07.12.77 AMERICAN MONITOR CORP B04 D16 =FR 2411-411
Enzymatic determination of tri-glyceride(s) in serum - 44032B/24

ANIS 03.02.75 ANIC SPA D15 E11 F06 =DS 2603-871
Removing anoinic organic impurities from aq. effluents - 61942X/33

ANIS 06.12.77 ANIC SPA A96 B07 D21 (B04) =FR 2411-005
Base for dermatological ointments and creams - 44325B/24

ANIS 06.12.77 ANIC SPA B04 D21 =FR 2411-010
Anticariogenic dentifrice compsns. - 44323B/24

*AQUA/ 07.05.79 AQUARIUS C D13 *BE -876-080
Packaging process for lollipop on stick - 68166B/38

*ARKH= 18.07.77 ARKHANGELSK FORESTR D16 F09 *SU -637-432
Solar-contg. vegetable hydrolysate and cellulose pulp processing waste - 69354B/38

*ASGE= 19.04.76 AS USSR GEN INORG C04 D13 E35 (C03) *SU -638-581
Ammonium phosphate fertiliser and animal feed additive - 69595B/38

ATCH= 21.09.76 AS TADZ CHEM INST A60 D22 E23 F06 #CH -612-693
Bactericidal mono:chloro:triazine dyes prodn. - 12719A/07

*ATLA- 24.04.78 ATLAS POWDER CO D15 E16 K04 *US 4167-521
Removing nitroglycerin from dil. aq. solns. - 69800B/38

*AUCO= 28.09.73 AS UKR COLL CHEM D15 J01 *SU -638-544
Activated clay mfr. for waste water, gas etc. purificn. - 69558B/38

AUER- 06.12.74 AUER H MUHLENWERKE D13 =DS 2457-647
Instant flaked food prepn. - 46285X/25

*AUPH= 16.03.77 AS UKR PHYS CHEM D13 *SU -638-600
Extn. of gelling polysaccharide from Phyllophora nervosa - 69613B/38

BADI 10.03.77 BASF AG A14 D22 (A97) =DS 2710-437
Water-soluble polyacrylic acid iodine complexes prepn. - 00100A/01

BADI 02.07.77 BASF AG A97 C03 D13 =ZA 7803-753
Feed pellet prepn. from feed flours - 02298B/02

BADI 05.07.77 BASF WYANDOTTE CORP A97 D25 E16 (A11) =ZA 7803-872
Stable liquid textile detergent - 78404A/44

BADI 27.07.77 BASF WYANDOTTE CORP D25 =BR 7804-821
Liq. detergent-bleach concentrate of high alkalinity - B/38

BADI 27.07.77 BASF WYANDOTTE CORP D25 *ZA 7804-238
Liq. detergent-bleach concentrate of high alkalinity - B/38

BADI 07.12.77 BASF AG D25 E19 =FR 2411-027
Prepn. of strongly alkaline aq. solns. of nonionic surfactants - 44034B/24

BALA/ 24.02.77 BALAVADSE E M D15 J03 =DS 2708-054
Appts. for automatic control of desalination of electrolyte solns. - 63649A/36

BERT- 06.12.77 BERTIN & CIE A31 D18 F07 *FR 2411-069
Machine to cut flexible sheets of leather, plastic, textiles etc. - 68526B/38

BESI/ 08.10.76 BESIK F D15 *US 4167-479
Purificn. of waste waters - 69779B/38

BEWA- 24.02.76 INST BEWARING VERWE D13 =US 4167-137
Roasting thin potato slices to crisps - 61541Y/35

BIOC 23.07.75 BLIOCHEMIE GMBH B05 D16 =CH -612-995
Pleuromutilin solvates with a halogenated aliphatic hydrocarbon - 49608A/27

BIOC 02.03.78 BIOCHEMIE GMBH B05 D16 #DT 2809-046
Pleuromutilin solvates with a halogenated aliphatic hydrocarbon - 49608A/27

*BIOR- 15.03.78 BIO RESEARCH CENTER D16 E17 *BE -874-791
Recovering di:basic acids from fermentation broth - 68127B/38

*BIOT= 25.04.77 BIOTECH RES INST D16 *SU -637-426
Nutrient medium for culturing Russula decolorans 2-strain - 69348B/38

*BIWA- 04.05.78 BIWATER SHELLABEAR D15 *ZA 7804-650
Water treatment and storage unit - B/38

BOEF 00.00.73 SUDDEU ZUCKER AG D17 =DS 2511-904
Recovery of sugar from molasses - 75748W/46

BOEF 07.12.73 BOEHRINGER MANNHEIM GMBH B04 D16 =CH -613-046
Activating cholesterol oxidase with surfactants - 40938W/25

BOEF 13.06.75 BOEHRINGER MANNHEIM GMBH B04 D16 J04 =GB 1552-697
Automated enzymatic analysis using dissolved enzymes - 94294X/51

BOEF 09.12.77 BOEHRINGER MANNHEIM GMBH B04 D13 E13 J04 =FR 2411-408
Colorimetric assay of ascorbic acid - 89647A/50

BOMM/ 27.07.76 BOMMER R D22 =DS 2733-729
Negative ioniser for purifying air in confined spaces - 84770Y/48

BORA 16.12.77 BORAX HOLDING INC A97 C03 D22 F09 =J5 4101-404
Synergistic wood preservative compsn. - 49370B/27

BORS/ 12.08.77 BORST A H D15 =ZA 7804-336
Combined waste water treatment and rubbish disposal - 89700A/50

BORS/ 12.08.77 BORST A H D15 =ZA 7804-337
Combined waste water treatment and rubbish disposal - 89700A/50

BRBL 04.04.74 BRAUNSCHWEIG MASCH A88 D17 =IT 1031-930
Centrifuge drums of bonded glass fibre for sugar prodn - 71010W/43

*BRDC 13.03.76 BARD C R INT LTD A83 D22 F07 (A11 A14 A60) *GB 1552-692
Operating theatre disposable headwear - 68556B/38

*BRET- 07.12.77 BRETONNE DE SURGELE D13 *FR 2410-967
Machine to cut florets from cauliflower stumps - 68518B/38

BRIM 05.04.71 BRISTOL MYERS CO D21 E18 =DS 2216-421
Hair dyeing compsn - 71473T/45

BRKM 22.02.74 BRUCKNER APPARATEBA D15 E16 F06 =IT 1031-816
Removal of halo-hydrocarbons from water - 59013W/36

*BROV 06.03.78 BBC BROWN BOVERI D15 J01 *GB 2015-891
Filtering flocculated drinking or waste water, or non-aq. suspensions - 68578B/38

BRPE 18.06.75 BRITISH PETROLEUM LTD C03 D13 H04 (D16) =GB 1552-791
Dispersible solid for milk replacement in animal feed - 25640Y/15

*BRPE 09.12.77 BP SOC FR PETROLES D13 *FR 2411-184
Furfural prepn. and solvent extn. from pentose soln. - 68535B/38

BRTA 06.09.77 BAT CIGARETTEN-FAB D18 J01 =ZA 7804-584
Eliminating nitric or carbon mon:oxide(s) from tobacco smoke - 04112B/03

BUHL 30.01.76 BUHLER GEBR AG D11 =CH -612-835
Industrial mfr. of couscous with enhanced output - 81517Y/46

*BURK/ 13.03.78 BURKLIN W D16 (D15) *EP ---4-094
Composting material depository - 68454B/38

*CAMB/ 06.04.77 CAMBON A D22 *FR 2411-011
Air purifier which diffuses disinfecting deodorising vapour - 68523B/38

*CAME- 14.03.78 CAMELIA MFG CO LTD A96 D22 *EP ---4-204
Disposable plastics splint or stretcher - 68493B/38

*CANI 14.03.78 CANADIAN INDUSTRIES LTD A97 D12 (D13) *EP ---4-161
Shirred stick of tubular casing material for flowable material - 68477B/38

*CANN= 24.12.74 CANNING VEGETABLE D13 *SU -638-323
Dry vegetable based paste for infants - 69467B/38

CASE/ 14.01.76 CASELI M D11 =DS 2701-444
Fully automatic dough portion weighing machine - 54345Y/31

*CASI= 23.03.77 C ASIA ANTI-PLAGUE D16 *SU -637-430
Nutrient medium for estimating amylolytic activity of vibrios - 69352B/38

*CAUB- 08.12.77 CAUBET & FILS SARL D25 E12 *FR 2411-234
Liquid washing product contg. a sodium alpha olefin sulphonate - 68538B/38

*CELA 06.03.75 CELANESE CORP D13 E17 *CA 1061-632
Preservative compsn. contg. propionic acid - 68180B/38

CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =BE -874-772
Cellulose acetate foam cigarette filter rod - 68589B/38

*CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) *GB 2015-921
Cellulose acetate foam cigarette filter rod - 68589B/38

*CELA 13.03.78 CELANESE CORP A97 C02 D18 E13 (D13) *GB 2015-961
Polymer encapsulated alkaloid(s) esp. tobacco alkaloid(s) - 68596B/38

CELL- 08.12.77 CELLCOR CORP CANADA D17 (D13) #FR 2411-236
Continuous starch hydrolysates prepn. using acid starch suspension - 28873A/16

CEMI 19.02.75 CEMENT IND RES INST C04 D14 J04 L02 (D17) #IT 1031-885
Milling and drying plant for bulk materials - 74138X/40

CENC- 09.12.76 CENCO INSTRUMENTEN D16 J04 (J01) =GB 1553-147
Cyto-centrifuge for prodn. of microscope slides - 47079A/26

*CHAN/ 06.12.77 CHANET J H A88 D14 F07 *FR 2411-259
Fabrics incorporating elastic pref. silicone rubber cords - 68542B/38

CHAZ/ 10.09.74 CHAZAN R A97 D25 (D22) =CH -612-851
Semi-solid germicidal cleaning compsn. - 22916X/13
*CHEC/ 18.03.76 CHECHURA A A D16 *SU -637-424
Microorganisms culture unit - 69346B/38
CHIN 27.01.71 CHINOIN GYOGYSZER C03 D13 E17 J04 = J7 9024-981
Liquid conversion into powder - 53679T/34
CIBA 02.12.74 CIBA GEIGY AG A14 D22 (A97) =CH -612-983
Particulate complexes of polyvinyl-pyrrolidone and iodine - 46051X/25
CIBA 02.12.74 CIBA GEIGY AG A14 D22 (A97) =CH -612-984
Particulate polyvinyl pyrrolidone-iodide compsn - 46052X/25
*CIBA 03.06.75 CIBA GEIGY AG D15 *CH -612-655
Effluent water treatment - 68192B/38
CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) =EP ---3-960
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) =NO 7900-332
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
COFR 28.02.74 CIE FRANCAISE RAFFINAGE A96 D21 =IT 1031-516
Paraffin emulsion for cleaning skin - 60753W/37
*COLG 28.05.69 COLGATE PALMOLIVE CO D25 E13 F06 *US 4167-487
Activating inorganic water-soluble per-oxygen cpds. - 69782B/38
COLG 26.11.73 COLGATE PALMOLIVE CO D25 E19 =CH -612-992
Inhibiting gel- and film-formation in liq detergents - 37983W/23
COLG 06.09.74 COLGATE PALMOLIVE CO D25 =CA 1061-673
Free-flowing detergent powder - 22894X/13
COLG 09.08.76 COLGATE PALMOLIVE CO D22 =GB 1553-034
Disposable diaper with absorbent pad - 68424Y/38
*COLP- 25.07.78 COLPAK PTY LTD A97 D12 *ZA 7804-217
Sausage skin - B/38
COSM/ 13.02.76 COSMAO N E A D11 =GB 1552-618
Bakery proving cabinet for controlled fermentation of dough - 39915Y/23
COST/ 07.03.78 COSTA R D11 =GB 2015-889
Kneading machine for food e.g. bread dough - 29985B/16
CSIR 21.02.74 COMMONWEALTH SCIENT ORG A97 D13 (A11) =IT 1031-947
Reducing bitter component content in fruit juices - 59135W/36
*CSIR 10.01.78 COMMONWEALTH SCI D15 *J5 4103-245
Deionisation of deoxygenation agent-contg. salt water - B/38
CSME- 07.02.75 COSTR MEC MAZZONI G D13 (D21) =IT 1031-536
Extrusion of veined or marbled pastes - 65240X/35

*DAGE= 06.01.75 DAGESTAN NUTRIENTS B04 D16 *SU -638-614
Prodn. of diagnostic dry agar contg. media - 69625B/38
DAIK- 25.03.74 DAIKYO YAKUHIN KOGY D22 =J5 0126-824
Coated cataplasm agent - 69241B/38
*DAIK- 25.03.74 DAIKYO YAKUHIN KOGY D22 *J7 9025-083
Coated cataplasm agent - 69241B/38
*DAKY 25.03.74 DAIKYO YAKUHIN KOGY D22 *J7 9025-083
Coated cataplasm agent - 69241B/38
*DANF/ 22.06.77 DANFORTH R C D13 *US 4167-587
Purple-coloured grape-flavoured acidic foods and drinks - 69832B/38
*DANO- 08.03.78 DANOCHEMO A/S B05 C03 D13 (D16) *DT 2908-639
Animal feed additive for normalising intestinal microflora - 68372B/38
DANO- 01.03.79 DANOCHEMO A/S B05 C03 D13 (D16) =GB 2016-043
Animal feed additive for normalising intestinal microflora - 68372B/38
DCAF 09.01.76 DCA FOODS INDS INC D13 #CA 1061-635
Foodstuffs shaped moulding equipment - 07442Y/04
DEBI- 06.12.77 DEBI DERIVATI BIOLO B04 D21 =FR 2411-010
Anticariogenic dentifrice compsns. - 44323B/24
DEGM 11.06.76 DEGREMONT SA D15 J01 =CA 1061-636
Band pressure filter for dehydrating waste water sludge etc. - 82895Y/47
DEGS 00.00.76 DEUTSCHE GOLD & SILBER D25 E34 =DT 2810-379
Sodium percarbonate particles coated with dehydrated sodium perborate - 66331B/37
*DNIN 27.01.78 DAINIPPON INK CHEM KK D16 *J5 4101-773
Sepg. spirulina plant residues form extract liq. - 68861B/38
DORO 10.03.69 DORR OLIVER INC D15 =DS 2010-832
Continuous sedimentation - 68909R/38
DOWC 26.06.74 DOW CHEMICAL CO A11 D13 G02 (G03) =CA 1061-782
Crosslinked cellulose ethers prepn. and purification - 62025W/37
*DRAK 31.08.77 DRACKETT CO A97 D25 E16 (A11) *US 4167-488
Compsn. for hard surface cleaning of e.g. ovens - 69783B/38
DRES 29.09.75 DRESSER INDUSTRIES INC D15 J01 =GB 1552-957
Membrane sepn. using rotating bundle - 25485Y/15
DSOM- 12.12.77 DSO MLECHNA PROMISH D13 #FR 2410-954
Appts. for mechanically salting fresh pickled cheese - 50224B/27
DSOP 06.12.77 DSO PHARMACHIM B04 D16 (D21) =FR 2411-001
Yoghourt lyophilisate for cosmetic and pharmaceutical use - 45939B/25
*DUNK/ 03.02.78 DUNKERS K R D15 *DK 7800-514
Water purification appts. - B/38
*DYNL 30.08.74 DYNAPOL A97 B04 D13 E24 (D13) *US 4167-422
Acid-insol., non-bleeding organic pigment lakes - 69743B/38
*DYNN 09.03.78 DYNAMIT NOBEL AG C03 D22 E14 F09 *DT 2810-142
Removing impurities of chlorinated phenol derivs. - 68292B/38

EBAI 23.01.74 EBARA INFILCO KK D15 =J7 9025-516
Phosphate removal from waste water - 38587Y/22
*EBAI 08.01.78 EBARA INFILCO KK D15 E11 (E36) *J5 4103-252
Removal of phosphate from sewage, industrial effluent, etc. - 69130B/
EGYE 16.08.73 EGYT GYOGYSZERVEGYESZETI B02 D16 =CH -612-674
5,6-Dialkoxy-indazole-3-carboxylic acid hydrazides - 03889W/03
*EKCO 27.06.77 EKCO PROD CO D11 *US 4167-233
Commercial baking pan - 69712B/38
ELBI- 18.08.77 ELBICON ELTRNS PVBA D14 =ZA 7804-679
Foreign body detection by reflected polarised infrared light - 06418A/0
ELIL 08.12.77 ELI LILLY & CO B03 C02 D16 =FR 2411-204
Antibiotic A-40104 fraction A - 93172A/51
*ENDO/ 30.01.78 ENDOH R D22 E33 (E34) *J5 4101-782
Exothermic chemical compsn. for hot compress - 68866B/38
*ENVI- 19.02.75 ENVIRONMENTAL PROD D15 *IT 1031-878
Effluent mass aerator - B/38
ERBA 05.02.79 ERBA C SPA B03 D16 =GB 2016-005
Anthracycline glycoside antitumour and antibacterial derivs. - 59812B/
*ERCO- 11.02.75 ERCOLE MARELLI SPA D15 *IT 1031-657
Pig breeding liquid waste purification - B/38
ESSO 03.01.78 EXXON RES & ENG CO D15 E36 J01 =J5 4100-992
Non-stoichiometric carbon-sulphur cpds. - 51262B/28

FARB 15.03.73 BAYER AG A96 B04 D16 (B02) =US 4167-446
Polymer-bound, water-soluble penicillin acylase - 68073V/39
FARB 11.05.73 BAYER AG B04 C03 D16 =DT 2366-272
Immunising cattle against para-influenza-3 virus - 84693V/49
FARB 25.09.76 BAYER AG B04 D16 =GB 1552-726
Electrically-treated microorganism suspensions - 23349A/13
FARB 27.08.77 BAYER AG B03 C02 D13 =ZA 7804-842
Tri:hydroxy-piperidine derivs. - 18396B/10
FARB 03.09.77 BAYER AG D18 =ZA 7804-990
Chrome tanning of hides and pelts - 20218B/11
FARB 17.01.78 BAYER AG A82 D18 E37 F08 =J5 4103-455
Pigment preparations for (imitation) leather dressings - 54767B/30
*FARB 07.03.78 BAYER AG A88 D15 J01 (A14) *DT 2809-713
Semipermeable membranes based on acrylonitrile copolymer
68262B/38
*FARB 08.03.78 BAYER AG A60 B02 C02 D22 *EP ---3-992
Heterocyclyl-carbonylamino-acetamido-penicillin derivs. - 68416B/38
*FARE= 10.05.76 FAR EAST DALTEKHRYB D12 *SU -638-320
Separator for shell fragments from crayfish flesh - 69465B/38
FARH 09.06.73 HOECHST AG D25 E19 =US 4167-639
Surface-active fluoro-sulphosuccinates - 88709V/52
FARH 22.03.74 HOECHST AG D25 E11 =CH -612-945
Tert methyl phosphine oxides from corresp hydroxymethyl phosphine
67296W/41
FARH 07.05.75 HOECHST AG A11 D22 (A96) =GB 1552-861
Water absorbent cellose ethers - 88959X/48
FARH 20.08.77 HOECHST AG D23 E17 (E16) =ZA 7804-717
Fatty acid nitrile(s) and glycerol prodn. - 18213B/10
FARH 19.09.77 HOECHST AG D15 E19 M14 =ZA 7805-288
Anticorrosion compsn. for ferrous metals - 22078B/12
FARH 04.03.78 HOECHST AG D12 =EP ---4-013
Sausage meat filling device - 66505B/37
*FARH 06.03.78 HOECHST AG A97 D12 *DT 2809-585
Support sleeve for corrugated sausage skin - 68252B/38
*FARH 11.03.78 HOECHST AG D13 E12 *EP ---4-049
Potassium sorbate granulation - 68433B/38
*FEIZ/ 06.06.77 FEIZIEV G K D15 *SU -638-355
Ion-exchange filter prodn. - 69484B/38
*FERM= 21.07.77 FERMENTATION PROD D16 *SU -637-425
Alcohol prodn. fermentation control - 69347B/38
*FEUR/ 06.03.78 FEURIG W D12 *DT 2809-609
Meat mincing machine - 68253B/38
FIRM 06.12.77 FIRMENICH SA B07 C03 D13 E13 (B03) =FR 2410-965
3-Methyl-1,2,4-trithiane used in aromatising compsns. - 44320B/24
FIRM 13.01.78 FIRMENICH SA B05 D23 E15 =J5 4100-361
Cis-10,10-di:methyl-tri:cyclo-(7.1.1.0)-undec-2 en-4-one - 54856B/30
FIRS- 06.08.75 FIRST PATENT DEV CO D22 =GB 1552-641
Surgical dressing comprising film forming protein - 09379Y/06
FIVE 16.06.71 FIVES LILLE-CAIL SA D17 J01 =J4 8009-979
Continuous crystallization process control - 81234T/51
FIVE 16.06.71 FIVES LILLE CAIL D17 J01 =J7 9024-984
Continuous crystallization process control - 81234T/51
FMCC 03.01.78 FMC CORP D25 E33 =J5 4101-000
Uniform small zeolite A crystals prodn. - 53024B/29
*FOOD= 24.02.77 FOOD MACH CONS RES D14 *SU -638-307
Pump for edible liquids, such as milk - 69460B/38
*FOOD= 13.07.77 FOOD EQPT RES EXP D17 *SU -637-619
Sampler for sugar-beet pulp - 69422B/38
*FREI/ 15.09.78 FREIJI M D14 E36 *ZA 7805-263
Fruit and vegetable preservation - B/38
*FRID/ 10.03.77 FRIDMAN T F B04 D16 J04 (D13) *SU -637-671
Quantitative determination of pectin - 69444B/38
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =NO 7900-290
Anticariogenic foods and pharmaceuticals - 58290B/32

RRR 31.01.78 FERRERO OHG B06 D21 (D16) =NO 7900-291
Anticariogenic foods and pharmaceuticals - 58294B/32
RRR 31.01.78 FERRERO OHG B06 D21 (D16) =SW 7900-551
Anticariogenic foods and pharmaceuticals - 58290B/32
RRR 31.01.78 FERRERO OHG B06 D21 (D16) =SW 7900-552
Anticariogenic foods and pharmaceuticals - 58294B/32
RTI- 07.10.77 FRENCH TIMBER IND C03 D22 F09 *ZA 7706-023
Wood treatment - 69864B/38
RYS/ 24.04.78 FRYSH H D21 *ZA 7802-334
Dentifrice compsn. - 69888B/38
USO- 30.01.78 FUSO KK D22 E36 *J5 4101-764
Deodorisation of gas contg. hydrogen sulphide, amine or fatty acid - 68855B/38

GAND/ 21.06.74 GANDELMAN KH K A82 D16 G02 (A14 A21) *SU -638-505
Epoxy resin-based compsn. for coating food and drink storage tanks - 69617B/38
GARD- 11.09.78 J W GARDENER ENTERP D13 #ZA 7805-134
Products based on hydrated peanuts - 06096B/04
GARR/ 05.05.76 GARRARD B D12 *GB 1552-822
Chilling of poultry carcasses - 68562B/38
GBFE- 08.04.74 GB FERMENTATION IND D13 (D16) =SW 7902-356
Lipolytic enzyme system from Mucor miehei - 58739W/36
GCDE- 27.01.78 GC DENTAL IND CORP A96 D21 =J5 4102-094
Reactive dental mixt. hardening at room temp. - 58357B/32
GEFI- 15.03.78 GENERAL FILMS INC D22 *EP ---4-203
Retaining asepsis of a sterile web of bags during filling - 68492B/38
GENA 03.01.78 GAF CORP A60 D25 E16 =J5 4100-322
Salt-free N-acyl taurine prepn. - 52918B/29
GENI/ 23.01.78 GENIE V G D17 =GB 2015-893
Rotary drum washer for extracting sucrose from beet and cane - 04061B/03
GENO 03.02.78 GENERAL FOODS CORP C03 D13 (D12) =SW 7900-769
Proteinaceous fibres having meat-like consistency - 42430B/23
GIVA 01.10.75 GIVAUDAN L & CIE SA D23 E19 (D13) =GB 1552-857
Disulphide perfume and/or flavouring materials prepn. - 27537Y/16
GLAX 06.12.77 GLAXO GROUP LTD A91 B02 D16 =FR 2411-197
Cephalosporin C isolation from fermentation broth - 44315B/24
GLAX 06.12.77 GLAXO LTD A91 B02 D16 =J5 4101-490
Cephalosporin C isolation from fermentation broth - 44315B/24
GNZE 28.12.77 GUNZE KK D15 *J5 4102-294
Reverse osmosis or ultrafiltration of waste water - 69018B/38
GOLD 02.03.78 GOLDSCHMIDT TH AG D22 E16 =NL 7901-707
Microbicidal guanidinium salt derivs. - 66467B/37
GOLD/ 25.10.77 GOLDBERGER-CROSS H D15 *ZA 7706-342
Combined processing of solid and liq. waste - 69868B/38
GOOR 16.10.78 GOODRICH B F CO A14 D22 F01 (A96) *US 4167-464
Water-absorbent films and fibres prepn. - 69767B/38
GOTO/ 00.00.73 GOTO K D13 =J5 0025-753
Wrinkle-fee pickled plums prodn. - 69242B/38
GOTO/ 00.00.73 GOTO K D13 *J7 9025-097
Wrinkle-fee pickled plums prodn. - 69242B/38
GRAC 19.02.74 GRACE W R CO A96 D22 =IT 1031-874
Dental and medical swabs - 57514W/35
GRAC 01.02.78 GRACE W R CO B02 C02 D16 =DK 7900-404
Fermentative prodn. of monordene - 40690B/22
GRAC 01.02.78 GRACE W R CO B02 C02 D16 =NO 7900-319
Fermentative prodn. of monordene - 40690B/22
GRAI 09.12.77 GRAIN PROCESSING CORP D16 =FR 2411-235
Prepn. of roasted non-malted barley - 27923B/15
GRAI 09.12.77 GRAIN PROCESSING CORP D16 =J5 4101-493
Prepn. of roasted non-malted barley - 27923B/15
GREA- 16.11.73 GREAT WESTERN SUGAR D17 =J7 9025-094
Stimulating sugar extn from plant tissues - 36187W/22

HAHG 11.05.77 DR C HAHN GMBH D22 F07 =ZA 7800-215
Dimensionally stable tampons prodn. - 38154A/21
HANS- 04.05.77 HANSENS LAB INC CHR D13 (D16) =GB 1552-909
Conc. cultures of lactic acid bacterial - 70551A/39
HANS/ 09.05.75 HANSEN K A B04 D16 =GB 1553-083
Indicators for checking effectiveness of antibiotics - 89151X/48
ASH/ 28.01.78 HASHIDA H D22 *J5 4101-765
Removing foul smelling odour from air - 68856B/38
AYB 13.07.70 HAYASHIBARA KEN A11 D17 =DS 2134-938
Macromolecular amylose prodn - 06247T/04
EAT- 02.02.73 HEAT & CONTROL INC D13 *US 4167-585
Heating and cooking food articles in closed chamber - 69831B/38
EIN/ 28.11.75 HEINE J D13 =US 4167-586
Foodstuff additive contg. animal blood albumin - 63384Y/36
ENK 12.02.71 HENKEL & CIE GMBH A97 D24 =J7 9025-043
Crockery rinsing agent - 56144T/35
ENK 03.03.71 HENKEL KG AUF AKTIEN D25 E16 =DS 2110-060
Carboxamides prepn from carboxylic acids or esters and ammonia - 76396S/48

HENK 24.04.72 HENKEL KG AUF AKTIEN C02 D22 E13 =DS 2220-016
Epsilon-caprolactam - alkanediamine condensn prodn - 69644U/46
HENK 15.04.76 HENKEL KG AUF AKTIEN D21 E16 =GB 1553-123
Hydroxy alkyl diamine or triamine betaine cpds. - 74163Y/42
HENK 10.12.77 HENKEL KG AUF AKTIEN C03 D13 =FR 2410-963
Animal feedstuffs giving high feed utilisation and wt. gain - 44050B/24
*HENK 09.03.78 HENKEL KG AUF AKTIEN D23 E13 *DT 2810-107
13-Oxa-bi:cyclo-(10.3.0)-penta:decane - 68286B/38
HENK 09.03.78 HENKEL KG AUF AKTIEN D23 E13 =EP ---4-052
13-Oxa-bi:cyclo-(10.3.0)-penta:decane - 68286B/38
*HENK 11.03.78 HENKEL KG AUF AKTIEN D11 *GB 2016-045
Prodn. of yeast active in acid doughs - 68613B/38
HENN- 29.08.77 HENNINGSEN FOODS IN D14 J08 =ZA 7804-795
Horizontal spray dryer for food products etc. - 01958B/02
HERT- 10.05.72 HERTA KG D13 =J7 9024-951
Wet fish feed - 73255U/48
*HERZ/ 08.03.78 HERZOG K D21 *DT 2809-959
Permanently waving long hair without using rollers - 68276B/38
HESS 15.03.74 HESSER FR MASCHFAB AG D13 =IT 1031-744
Coffee packed in plastic envelope with pressure release valve - 27243Y/16
HEYL 08.01.73 HEYL GEBR KG D15 =DS 2300-606
Automatic control programmer for water softening plant - 36560V/20
*HIEJ 27.01.78 HITACHI PLANT ENG CONST D15 *J5 4101-778
Concn. of liq. by reverse osmosis - 68865B/38
HIGE- 23.08.76 HIGETA SHOYU KK D16 =J5 3027-547
Edible mushroom cultivation - 69221B/38
*HIGE- 23.08.76 HIGETA SHOYU KK D16 *J7 9024-934
Edible mushroom cultivation - 69221B/38
HITA 07.02.75 HITACHI KK D15 =J7 9025-344
Rapid biological oxidn of organic waste liquor - 72803X/39
HITA 09.12.77 HITACHI KK D14 J01 =FR 2411-022
Continuous band filter for food prods. - 45949B/25
*HITB 01.02.78 HITACHI CHEMICAL KK D15 *J5 4103-254
Treatment of sugar-contg. waste liquor - 69131B/38
HOEK- 29.03.77 HOEKA SIERPLEISTERS A82 C03 D22 F09 =DS 2812-697
Wood preservative treatment - 70810A/40
HOFF 09.12.77 HOFFMANN-LA ROCHE SA D21 E13 =FR 2411-002
Cosmetic prods. contg. pyridine thiol cpds. and acetyl cysteine - 44049B/24
HOFF 20.04.78 HOFFMANN-LA ROCHE INC B03 C02 D13 (D22) =US 4167-579
Antibiotic obtd. by culturing Streptomyces strain - 10289A/06
*HOHN 01.02.78 HOHNEN OIL KK D13 *J5 4103-405
Edible oil resistant to spitting when used for frying or roasting - 69142B/38
HOKA 21.04.77 HOKKAIDO SUGAR KK D17 E13 =GB 1553-166
Maltose liq. purificn. - 92127A/51
HOKP 24.05.73 HOKUETSU PAPER MILL KK A91 D15 =J7 9025-513
Removal of impurities from waste water by adsorption - 62889W/38
HUDG/ 25.06.74 HUDGIN D E A96 B07 C03 D13 (A25 D16 D21 D22) =CA 1061-931
Hydrophilic or hydrogel carrier systems - 66600X/35
HUGH/ 05.02.76 HUGHES A W D12 =CA 1061-776
Emulsification of sausage batter by apertured rotating discs - 26871Y/15
HUSQ 03.02.78 HUSQVARNA AB D13 =DK 7900-344
Protein-contg. food prodn. - 61730B/34
HUSQ 03.02.78 HUSQVARNA AB D13 =SW 7801-280
Protein-contg. food prodn. - 61730B/34
*HYDR= 02.08.76 HYDROTECH RES INST D15 J01 *SU -638-346
Fine cleaning filter for removing petroleum products from water - 69477B/38

ICIL 11.03.74 IMPERIAL CHEM INDS LTD D15 H03 J01 =DS 2509-649
Oil removal from oil-in-water emulsions - 64017W/39
ICIL 22.12.77 IMPERIAL CHEM INDS LTD C02 D13 =J5 4101-489
Treatment of ruminants with aplasmomycin or related cpds. - 52996B/29
*ICIL 10.01.78 ICI AUSTRALIA LTD D15 *J5 4103-245
Deionisation of deoxygenation agent-contg. salt water - B/38
IMPT 20.09.77 IMPERIAL GROUP LTD D18 J02 =ZA 7804-889
Homogenisation of tobacco slurries etc. - 26381B/14
*INFL 17.03.78 INT FLAVORS & FRAGR INC D23 E15 (D13) *US 4167-497
Modifying, enhancing the aroma of perfume compsns. or colognes - 69790B/38
*INFL 30.05.78 INT FLAVORS & FRAGR INC D23 E19 *BE -876-005
Diluted liq. perfume compsn. - 68152B/38
INPA- 04.10.74 IND PATENTE ANSTALT D15 =IT 1031-550
Effluent purification plant - 14722Y/09
*INSF 21.03.78 INST FRANCAIS DU PETROLE A97 D15 E17 H03 (D25) *BE -874-818
Cleaning polluted surfaces, esp. water covered with oil - 68136B/38
INTE- 26.08.77 INTERFACE BIOMED LA A96 D22 =US 4167-045
Cardiac and vascular implantation prostheses - 18397B/10
INTE- 06.12.77 INTERMEDICAT GMBH A96 D22 (A17 A26) =FR 2410-997
Heart surgery prostheses mfr. - 44295B/24
IOWA 29.03.76 IOWA STATE UNIV RES INC B04 C03 D16 #GB 1552-611
Injectable Bordetella bronchiseptica vaccine - 27019Y/15

*ISHI- 30.01.78 ISHIHARA YAKUHIN KK A60 D22 *J5 4101-789
Release, lubricating, delustering, antiseptic or flameproofing agent - 68872B/38
*ITOS- 20.01.78 ITO SEIYU KK A60 D21 G02 *J5 4100-319
Hydroxylating castor oil or its ricinoleic acid ester - 68633B/38
*ITSH 21.07.78 INT SHOE MACHINERY CORP D18 *US 4167-103
Shoe upper margin roughing machine - 69698B/38

*JAMO- 01.12.78 JAMONES GERONA SA C03 D13 *BE -874-833
Treating and preserving farm animal bones for pet foods - 68141B/38
JASK/ 17.08.77 JASKOWSKI M C A96 D21 E17 =ZA 7804-653
Hair shaping compsn. for all types of hair - 16424B/09
*JEUM 06.12.77 JEUMONT-SCHNEIDER D15 *FR 2411-159
Tank installation to inject gas into liq. esp. waste water - 68531B/38

KALL 04.03.78 KALLE AG D12 =EP ---4-013
Sausage meat filling device - 66505B/37
*KANK- 26.01.78 KANKYO ENG KK A21 D15 E13 *J5 4102-053
Treating waste water contg. hexa:methylene:tetramine - 68954B/38
*KANK- 26.01.78 KANKYO ENG KK D15 *J5 4102-054
Polluted water treatment e.g. leached water from dumps etc. - 68955B/38
*KANK- 27.01.78 KANKYO ENG KK A21 D15 E13 *J5 4102-055
Treatment of waste water contg. hexa:methylene tetramine - 68956B/38
KAOS 02.11.73 KAO SOAP KK A97 D25 E34 F06 =J7 9025-514
Hypochlorite bleach compsns - 79894X/43
KAOS 09.10.75 KAO SOAP KK D23 (D21) =US 4167-518
Removing allergenic cpds. from lanolin and derivs. - 27461Y/16
KAOS 25.01.78 KAO SOAP KK A97 D25 E33 =J5 4100-405
Detergent compsn. for washing textiles - 56577B/31
KAOS 25.01.78 KAO SOAP KK A97 D25 E33 =J5 4100-406
Detergent compsn. for washing textiles - 56577B/31
KAOS- 06.12.76 KAO SOAP CO LTD A97 D25 E33 =GB 1552-710
Detergent compsn. contg. aluminosilicate in place of poly:phosphate - 26988A/15
*KARA/ 08.07.76 KARAVAIKO G I D16 M25 *SU -638-713
Leaching iron from rare and non-ferrous metal ore and concentrates - 69677B/38
*KARS/ 18.05.78 KARSTEL C J D15 *ZA 7802-840
Water purificn. - B/38
KAWA/ 04.08.71 KAWAZOE A D15 =J7 9025-342
Spreading activated coal on sea surface - 18182V/10
*KAWI 30.01.78 KAWASAKI STEEL KK A60 D22 *J5 4101-789
Release, lubricating, delustering, antiseptic or flameproofing agent - 68872B/38
*KDPO= 19.01.77 KRASD POLY D16 *SU -637-427
Fermented mash distillation column control - 69349B/38
KEMI- 09.01.78 KEMIN INDU INC C03 D13 =US 4167-584
Stable emulsified liquid starch prod. - 52805B/29
*KHER= 12.07.77 KHERSON AGRIC INST D15 E35 *SU -638-309
Compsn. for flushing dung canals in animal husbandry farms - 69461B/38
*KHPH= 18.07.77 KHARK PHARM CHEM D22 E16 *SU -638-589
N-Acetyl epsilon-aminocaproic acid prodn. - 69602B/38
*KICO= 28.03.77 KiEV COMM HYGIENE D16 (D15) *SU -637-428
Quantitative determn. of thiobacillus thiocyanoxidans in waste water - 69350B/38
*KIIN= 20.04.77 KIEV INFECT DISEASE B04 D16 *SU -637-429
Pathogenicity determn. of salmonella enteritidis - 69351B/38
KIMB 22.08.77 KIMBERLY CLARK CORP A96 D22 (A35) =ZA 7804-770
Sanitary towel without fastening loops - 20276B/11
*KIMB 06.03.78 KIMBERLY CLARK CORP D18 *DT 2820-414
Denitrated reconstituted tobacco prepn. - 68333B/38
*KITA 17.02.78 KITASATO INST B02 C02 D16 *EP ---4-128
Frenolicin B from Streptomyces roseofulvus ATCC 31476 - 68465B/38
*KITA- 30.01.78 KITAYA KK A94 D18 F08 *J5 4102-380
Decorative laminated panel - 69068B/38
*KOBA- 26.01.78 KOBAYASHI KOSEI KK A96 D21 *J5 4101-442
Undercoat for lipstick - 68823B/38
KOHL/ 24.03.75 KOHLE G D12 =DS 2512-973
Dietetic meat patties - 76018X/41
KROY/ 02.03.78 KROEYER K K K A81 D22 F04 =DT 2908-064
Binder-contg. fibrous sheet mfr. - 52566B/29
KROY/ 02.03.78 KROYER K K K A81 D22 F04 =NL 7901-645
Binder-contg. fibrous sheet mfr. - 52566B/29
KRUG/ 11.03.76 KRUGMANN A R A97 D12 =DT 2660-420
Packaging food portion with liq. in plastic dish - 48842Y/28
KURE 24.01.72 KUREHA KAGAKU KOGYO A14 D12 (A92) =J4 8077-077
Packaging films for meat - 46005U/33
KURE 24.01.72 KUREHA KAGAKU KOGYO A14 D12 (A92) =J7 9025-099
Packaging films for meat - 46005U/33
KYOW- 12.03.77 KYOWA SINKU GIJUTSU D13 =J7 9024-911
Granulating moist foodstuffs under vacuum - 80729A/45

*LAIT- 02.03.78 LAITERIES H TRIBALL A97 D13 *EP ---4-231
Acidulation of milk using cationic resin followed by acid - 68506B/38
*LENI= 01.10.74 LENINSKAYA KUZNITSA D15 H03 *SU -638-505
Purifying bilge-ballast water contg. petroleum - 69552B/38
LEUV- 19.03.75 LEUVEN RES & DEV D15 J01 =US 4167-481
Removal of (heavy) metals from aqs. solns. - 76124X/41
LEUZ/ 08.12.77 LEUZE G A88 D18 =FR 2410-973
Roller used in footwear mfr. e.g. processing of pieces of leathe
45906B/25
LEWI- 06.10.77 LEWIS REFRIGERATION D14 =ZA 7805-233
Freezer for food prods. in trays - 31961B/17
LIFE- 12.12.77 LIFE SAVERS INC D13 =FR 2410-962
Sugarless candy with improved flavour and sweetness - 42347B/22
LIFE- 23.01.78 LIFE SAVERS INC D13 #J5 4101-469
Flavoured chewing gum with prolonged sweetness - 45680A/25
LINM 25.08.77 LINDE AG D15 (D17) =ZA 7804-822
Purifying organically contaminated waste waters contg. calcium
18363B/10
LINM 17.09.77 LINDE AG D16 (D13) =ZA 7805-264
Aerobic fermentation control - 26251B/14
LIOC 11.09.76 LION HAMIGAKI KK B05 D21 =DS 2740-446
Film-forming compsn. used to prevent dental caries - 34442A/19
*LIOC 24.01.78 LION DENTIFRICE KK C03 D22 E16 F06 *J5 4101-425
Insecticide for use on clothes - 68817B/38
LIOY 04.07.73 LION FAT & OIL KK D25 =DS 2432-523
Spray-dried granules of washing or cleaning compsns. - 09497W/06
*LIOY 01.02.78 LION FAT & OIL KK D25 *J5 4103-406
Reformation of granular detergent - 69143B/38
*LIVA= 01.03.78 LIVANY EXPER BIOCHEM A97 C03 D13 *DT 2808-803
Feed-concentrate powder polymer coating - 68219B/38

MACH- 12.12.77 MACHINES CHAMBON D17 =FR 2411-378
Drying tunnel esp. for moulded moist sugar lumps - 24008B/13
MACH/ 23.11.76 MACH G D15 =US 4167-480
Water desalination system - 38786A/22
*MAJM- 13.03.78 MAJ SARL D22 *EP ---4-239
Sterilising and vacuum sealing rack - 68510B/38
*MAUG 09.03.78 AUGSBURG NURNBERG AG D15 J01 *DS 2810-241
Water collector from atmospheric air - 68206B/38
MAUG 09.03.78 AUGSBURG NURNBERG AG D15 J01 =EP ---3-964
Water collector from atmospheric air - 68206B/38
*MAYR 10.03.78 MARYLAND CUP CORP D13 *EP ---4-085
Baked ice cream cone with conforming sanitary jacket - 68448B/38
MCDD 03.05.76 MCDONNELL DOUGLAS CORP B04 D16 =GB 1552-892
Pseudomonas aeruginosa determination in urine - 81425Y/46
*MEAT= 29.07.77 MEAT IND RES INST D15 F09 J03 *SU -638-654
Spent sulphite liquor processing - 69661B/38
*MEDI- 10.03.78 MEDICE CHEM-PHARM D22 *DT 2810-536
Skin disinfection by spraying from atomiser bottle - 68313B/38
*MEDI= 01.03.78 MED TECH RES INST A97 C03 D13 *DT 2808-803
Feed-concentrate powder polymer coating - 68219B/38
MEDX 10.10.69 MEADOX MEDICALS INC A23 D22 F04 (A96) =DS 2009-349
Synthetic vascular transplant and its manu- - 29086S/17
*MEIJ 08.02.78 MEIJI SEIKA KAISHA B04 D16 *DT 2904-628
Antibiotic antitumour derivs. of substance SF-1739 - 68342B/38
MEIP 10.06.75 MEIJI MILK PRODS KK D13 E13 =J7 9025-004
Beta:lactose prodn. - 08334Y/05
MEIP 21.11.75 MEIJI MILK PRODS KK D14 =J7 9024-910
Device for fine-powders e.g. coffee prodn. - 88392A/49
MEIP 21.11.75 MEIJI MILK PRODS KK D14 =J7 9024-986
Device for mfg. finely powdered food - 88393A/49
MENZ- 06.03.73 MENZEL & CO GMBH D15 =DS 2310-978
Activated sludge purificn tanks - 75972V/44
MERE 03.10.75 MERCK PATENT GMBH D21 E14 =GB 1553-094
UV-absorbing dibenzoyl-methane derivs. - 25232Y/15
*MERE 20.02.78 MERCK PATENT GMBH D17 E17 (E13) *DT 2903-388
Fructose and gluconic acid prepn. from glucose fructose mixt
68340B/38
*MERE 06.03.78 MERCK PATENT GMBH D13 *DT 2809-536
Instant cocoa beverage powder prepn. - 68248B/38
*MERI 06.11.72 MERCK & CO INC B02 C02 D22 *US 4167-630
Epimerising beta-lactam antibiotic cpds. - 69851B/38
MERI 26.10.73 MERCK & CO INC B04 C03 D16 =CH -612-996
Antibiotic FR-02A produced by Streptomyces lactamdurans - 31051W/1
MERI 10.03.78 MERCK & CO INC A97 D16 =DT 2909-340
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37
MERI 10.03.78 MERCK & CO INC A97 D16 =GB 2016-044
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37
MICH/ 22.04.77 MICHEL G H D13 E12 (D21) =US 4167-559
Oral deodorising compsn. - 20447B/11
MILE 06.03.78 MILES LABORATORIES INC D13 =DT 2908-060
Preparing products analogous to cheese - 50906B/28
*MILE 11.09.78 MILES LABORATORIES INC A96 B04 D16 *BE -876-083
Formed bacterial cell aggregates of improved durability - 68167B/38
MILU- 12.07.74 MILUPA AG D13 =DS 2433-650
Ready-to-eat compressed food concentrates - 09430X/06

MINN 14.11.77 MINNESOTA MINING CO A96 B04 D16 =J5 4101-409
Substrates for immobilising biologically active proteins - 39382B/21

MIRK- 05.05.78 MIRKOZ DIESEL HUTOT D15 J01 *BE -876-048
Flotation separator partic. to skim surface oil from sewage - 68156B/38

MITK 10.03.78 MITSUI TOATSU CHEM INC B04 D16 *DT 2908-241
Bacterial cell extracts from Mycobacterium species - 68364B/38

MITK 10.03.78 MITSUI TOATSU CHEM INC B04 D16 =GB 2015-876
Bacterial cell extracts from Mycobacterium species - 68364B/38

MITO 26.01.78 MITSUBISHI HEAVY IND KK D15 E36 J03 *J5 4100-997
Electrolytic generation of ozone from waste water - 68786B/38

MITP 21.10.74 MITSUBISHI PETROCH KK A91 D15 J01 =US 4167-551
Ion exchange membranes of powdered resin - 34317X/19

MITU 31.01.78 MITSUBISHI CHEM IND KK A14 D15 *J5 4102-390
Partially hydrolysed acrylamide polymer prodn. - 69078B/38

MITU 31.01.78 MITSUBISHI CHEM IND KK A14 D15 *J5 4102-391
Partially hydrolysed acrylamide polymers, used as coagulants - 69079B/38

MITU 31.01.78 MITSUBISHI CHEM IND KK A14 D15 *J5 4102-392
Partially hydrolysed acrylamide polymers prodn. - 69080B/38

MITV 30.01.78 MITSUBISHI METAL KK D15 J01 *J5 4101-776
Sepn. of mixt. of water and oil into oil, water and emulsion layers - 68864B/38

MIYA/ 24.03.75 MIYAZOE T D21 =J7 9025-091
Clear solid hair grooming agent - 85861X/46

MOFO= 17.06.77 MOSC FOOD IND TECHN D13 *SU -637-645
Foodstuff rheological properties evaluation - 69430B/38

MOLD= 01.02.78 MOLDAVIAN FOOD IND D14 *SW 7900-850
Rapid freezer for food - 69689B/38

MOLK- 10.12.77 MOLKEREI-ZENT SUD D13 *FR 2411-539
Composite cheese block for extending shelf life or blue cheese - 68550B/38

MONS 18.06.76 MONSANTO CO A97 D15 E11 M14 =GB 1553-156
Corrosion inhibitors for metals contacting water systems - 50222Y/28

MONS 22.08.77 MONSANTO CO A25 D25 (A97) =ZA 7804-737
Polymeric acetal carboxylate detergent builders - 18418B/10

MOOC 06.02.76 MO OCH DOMSJO AB D22 F09 =US 4167-378
Cellulosic fibre matting prodn. - 59675Y/34

MORG 09.12.77 MORINAGA MILK KK B04 D16 #FR 2411-008
Bifidus powder contg. lactulose - 09345A/05

MOSU 11.08.77 MOSCOW LOMONOSOV UNIV B04 D16 *SU -638-599
Nucleic acid mixt. fractionation for biochemical etc. use - 69612B/38

MOSV= 07.10.76 MOSVODOKANALNIIPROE D15 J01 *SU -638-356
Waste water purificn. sorbent compsn. - 69485B/38

MULL- 31.10.74 FA MULLER H C03 D13 =CA 1061-634
High protein fodder prodn - 36394X/20

MURA/ 25.01.78 MURAKAMI K A35 D16 *J5 4100-441
Vulcanising rubber compsns. using microorganisms - 68675B/38

NAAR 22.02.74 NAARDEN INT NV B07 D23 E15 (D13) =CH -612-846
Damascone and damascenone derivs. as aromatising cpds. - 58735W/36

NAKA- 26.01.78 NAKAGAWA HUME KAN KO D15 L02 *J5 4102-051
Mfg. additive for neutralising acidic waste water - 68953B/38

NATT 09.05.75 NAT STARCH & CHEM CORP A96 C03 D21 (D22) =CA 1061-770
Water absorbent - 89062X/48

NATU= 21.09.76 NAT & SYNTH FIBRES A60 D22 E23 F06 #CH -612-693
Bactericidal mono:chloro:triazine dyes prodn. - 12719A/07

NEST 11.09.72 SOC PROD NESTLE SA D13 =DS 2345-798
Soluble proteins from skim milk - 23361V/13

NEST 08.10.76 SOC PROD NESTLE SA D13 =GB 1553-008
Stable, aq. soya suspensions prodn. - 29091A/16

NEST 12.12.77 SOC PROD NESTLE SA D13 =FR 2410-961
Cheese mfr. - 84045A/46

NEST 12.01.78 SOC PROD NESTLE SA D13 =J5 4101-496
Decaffeinating aq. tea extract - 47165B/26

NEST 25.01.78 SOC PROD NESTLE SA D12 E17 =J5 4101-470
Aromatising material imparting pork flavour - 56529B/31

NEST 10.03.78 SOC PROD NESTLE SA D13 *DT 2905-605
Granule coating machine for ice cream - 68344B/38

NEST 10.03.78 SOC PROD NESTLE SA D13 =GB 2015-862
Granule coating machine for ice cream - 68344B/38

NICA 13.02.74 NIPPON CARBIDE KOGY KK A97 D15 E33 F09 (A21) =IT 1031-682
Clearing waste liquid contg. paper pulp - 65849W/40

NIGE- 30.01.78 NIPPON GENSHIRYOKU D15 E36 J04 *J5 4102-183
Colorimetric analysis of low concn. hydrogen peroxide soln. - 68965B/38

NIKL 28.01.78 JAPAN STEEL WORKS D15 (D22) *J5 4101-769
Aerobic fermentation and cracking of organic solid waste - 68858B/38

NIPC 02.11.73 NIPPON CHEM IND KK D15 E31 =J7 9025-512
Insolubilisation of hexavalent chromium in chromic acid prodn. waste - 79869X/43

NIPE- 30.01.78 NIPPON PEROXIDE KK D15 E36 (E37) *J5 4101-783
Removing slime from water or sewage treatment - 68867B/38

NIRA 25.01.78 UNITIKA KK A91 D15 J01 (A25) *J5 4100-979
Absorbent with high selective absorption of metal ions - 68775B/38

NISA- 28.03.69 NIPPON SAIBAI SUIS C03 D13 =J7 9024-959
Culture of fish and crustacea larvae with - 31245S/18

NISA- 01.04.69 NIPPON SAIBAI SUIS C03 D13 =J7 9024-958
Artificial shrimp feed particles - 43566T/27

NISB 17.10.74 JAPAN TOBACCO & SALT PUB D18 =CA 1061-530
Tobacco products and tobacco substitutes - 32268X/18

NITA 22.01.76 NITTETU CHEM ENG A41 D15 E16 (E17) =CA 1061-918
Treatment of waste water contg. ammonium sulphate and organic cpds. 56960Y/32

*NITP 25.01.78 NIPPON TERPENE KAGA KK B05 D16 E15 (D23) *J5 4101-487
Fermentative optical resolution of racemic menthol and isopulegol - 68828B/38

NORM- 31.12.75 NORM AMC AG C04 D15 =CH -612-656
Composted humus continuously produced from wet biological sludge - 19990Y/12

*NPIP= 01.03.77 N BR PIPE MAINS CON D15 E36 J04 *SU -637-642
Determn. of dissolved oxygen in water sample - 69428B/38

*NUCL- 24.01.72 NUCLEAR ENGG CO A81 D15 K07 (A21) *US 4167-491
Article for radioactive waste transportation and storage - 69785B/38

NYKO- 25.09.72 SUKKERFABRIKEN NYKO D17 =DS 2347-425
Fibrous material extractor - 29299V/16

OAKE- 10.03.78 OAKES E T LTD A31 D14 J02 =DT 2909-422
Mixer having concentric rings of axial mixing elements - 52580B/29

OREA 05.11.74 L'OREAL SA A96 D21 E14 =CH -612-845
Hair dyeing and setting compsns - 38470X/21

OREA 02.05.75 L'OREAL SA D22 E14 =CA 1061-674
Cold extruded para-dichloro-benzene toilet cleansing bars - 84964X/46

*OREA 06.01.78 L'OREAL SA D21 *J5 4101-441
Cosmetic composition for skin cleansing - B/38

OREA 02.02.78 L'OREAL SA A96 B04 D21 (D22) =DT 2904-047
Conserving aq. dispersions of liposome microcapsules - 58011B/32

ORIO- 13.01.78 ORION RES INC A89 D15 J04 =J5 4103-092
Regulating pH in a low ion concn. potentiometric measuring system - 90092A/50

ORLA- 06.06.74 ORLANE D21 E16 =DS 2524-297
Serine-contg cosmetic formulation - 02288X/02

OSAP 22.09.75 OSAKA PREFECTURE D15 M11 =J7 9024-908
Treating sludge mixed with metal cpds. - 31959Y/18

*OSAS 01.04.70 OSAKA SODA KK D15 E33 J01 *J7 9024-985
Sepn. of granular adsorbent from magnesium hydroxide contg. slurry - 69230B/38

*PAPE= 29.07.77 PAPER RES INST D15 F09 J03 *SU -638-654
Spent sulphite liquor processing - 69661B/38

*PATE- 13.07.77 PATERSON CANDY INT D15 *ZA 7803-617
Flotation clarification process - 69900B/38

*PATE- 13.09.77 PATERSON CANDY INT D15 *ZA 7803-495
Water clarifier - 69896B/38

PETR 02.03.78 VEB PETROCHEM SCHWEDT D16 H04 (D13 H07) =DT 2906-846
Prodn. of lubricating oils and protein from paraffinic oils - 54591B/30

PETR- 03.02.78 C F PETRIS EFTF I/S D13 =DK 7800-496
Chewing gum contg. sorbitol as sweetener - 58020B/32

PETR- 03.02.78 PETRIS C F EFTF I/S D13 =NO 7900-344
Chewing gum contg. sorbitol as sweetener - 58020B/32

PETR- 03.02.78 PETRIS EFTF C F D13 =SW 7900-927
Chewing gum contg. sorbitol as sweetener - 58020B/32

PFEI 10.04.75 PFEIFER & LANGEN B05 D17 E16 =DT 2560-135
Amino acids extn. from sugar beet - 65050X/35

PFIZ 16.04.76 PFIZER INC B02 C02 D22 #CH -612-681
(6)-Acylamino-(3)-tetrazolyl-penams useful as antibacterials - 14581Y/09

*PHAR- 23.11.76 PHARMA-MEDICA SCAND D16 *CA 1061-730
Sterile culture media prodn. in unit doses - 68185B/38

*PHIL/ 08.12.77 PHILY G A93 D15 *FR 2411-160
Activated sludge unit to purify effluent of small community - 68532B/38

PITT 02.06.75 PPG INDUSTRIES INC A35 D22 J04 =GB 1552-919
Ultraviolet light irradiation plant - 94671X/51

PRIN 28.02.75 PRINCETON BIOMEDIX B04 D16 J04 =CH -612-762
Thymol blue phosphate salts - 56107X/30

PROC 27.09.74 PROCTER & GAMBLE CO A97 D23 E33 =CA 1061-676
Phosphate free granules contg submicron calcium carbonate - 29462X/16

PROC 31.01.75 PROCTER & GAMBLE CO D21 E13 =CA 1061-715
Skin moisturising compsns. contg. (2)-pyrrolidinone - 29044Y/16

PROC 20.06.75 PROCTER & GAMBLE CO D25 E12 =CA 1061-503
Washing compsn. contg. oxid. bleach and e.g. iron porphine catalyst - 03248Y/02

PROC 23.06.77 PROCTER & GAMBLE CO D25 E17 (E36) =SW 7905-592
Suds regulated detergent compsn. - 02332B/02

PROC 29.06.77 PROCTER & GAMBLE CO A97 D25 E19 =SW 7905-768
Detergent compsn. water-releasably loaded on a substrate - 02340B/02

*PROC 06.03.78 PROCTER & GAMBLE CO A97 D25 E19 *EP —4-108
Prodn. of intimate mixt. of N-based cationic surfactant - 68458B/38

PROC 13.03.78 PROCTER & GAMBLE CO D25 =EP ---4-109
Body imparting fabric treating compsn. - 61476B/33
• PROC 13.03.78 PROCTER & GAMBLE CO D25 *EP ---4-111
Fabric care compsn. - 68459B/38
PROC 13.03.78 PROCTER & GAMBLE CO A26 D25 E11 M14 =EP ---4-112
Capped silicate cpds. - 48921B/26
PROC 13.03.78 PROCTER & GAMBLE CO A26 D25 E11 M14 =EP ---4-113
Capped silicate cpds. - 48921B/26
• PROC 13.03.78 PROCTER & GAMBLE CO A97 D25 E19 *EP ---4-121
Low phosphate laundry detergent compsn. - 68460B/38
PROT= 29.05.73 PROTEIN BIOSYNTHESI D16 H04 =SU -638-613
Recovery of yeast cell material - 59937V/34
• PROT= 08.07.76 PROTEIN BIOSYNTH D16 *SU -638-615
Device for controlling extn. of nutrient from fermenter - 69626B/38
• PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 F09 *DT 2908-992
Solid or aq. solvent for extracting cellulose - 68397B/38
• PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 *GB 2016-014
Glucose prodn. by cellulose acid hydrolysis - 68608B/38

QPPP 15.03.72 Q.P. CORP A92 D13 =J4 8090-864
Storing boiled eggs - 69243B/38
QPPP 15.03.72 Q.P. CORP D13 =J4 8092-566
Mfg. emulsified oily foodstuff - 69247B/38
• QPPP 15.03.72 Q.P. CORP A92 D13 *J7 9025-100
Storing boiled eggs - 69243B/38
• QPPP 15.03.72 Q.P. CORP D13 *J7 9025-107
Mfg. emulsified oily foodstuff - 69247B/38
QPPP 27.04.72 Q.P. CORP D13 =J4 9001-762
Sealing boiled eggs in a vessel - 69244B/38
• QPPP 27.04.72 Q.P. CORP D13 *J7 9025-101
Sealing boiled eggs in a vessel - 69244B/38
QPPP 22.05.72 Q.P. CORP D13 E12 (E33 E34) =J4 9013-362
Sealing boiled eggs in a vessel - 69245B/38
• QPPP 22.05.72 Q.P. CORP D13 E12 (E33 E34) *J7 9025-102
Sealing boiled eggs in a vessel - 69245B/38
QPPP 17.06.77 Q.P. CORP D13 =J7 9025-103
Prepn. of dry yolk compsn. - 16908B/09

RALS 18.06.73 RALSTON PURINA CO D12 #J7 9025-098
Fibrous meat additive - 01478V/01
RALS 26.07.75 RALSTON PURINA CO D12 F01 =GB 1552-680
Prodn. of protein filaments from cooked meats - 88724X/47
REAK- 13.03.78 REAKTOR BRENNELEMEN D15 E31 K05 M25 =GB 2015-975
Uranium cpds. recovery from waste solns. - 54518B/30
REIF/ 13.02.71 REIFENHAUSER T D12 =DS 2106-954
Dicing machine - 55248T/35
RETO 08.11.71 REYNOLDS TOBACCO CO D18 =DS 2254-652
Tobacco processing plant - 30885U/22
REVL 18.08.78 REVLON INC D21 E36 #ZA 7804-537
Dry pigment compsn. for aq. make-up foundation - 76163A/42
RHON 12.03.75 RHONE-POULENC INDUSTRIES A60 B06 D21 E36 (D25) =CH -612-897
Amorphous pptd silica esp for use in tooth-pastes - 74354X/40
RHON 22.08.75 RHONE-POULENC INDUSTRIES A13 B04 D16 (A96) =CH -612-982
Stable latex of styrene polymer with terminal thio-aniline gps. - 12782Y/08
RHON 04.05.77 RHONE-POULENC INDUSTRIES D16 G02 K01 =ZA 7802-406
High expansion fire fighting foams contg. hetero polysaccharide(s) - 80185A/45
• RHON 02.03.78 RHONE-POULENC INDUSTRIES D25 E33 *EP ---4-225
Synthetic alkali silico-aluminate prodn. - 68504B/38
• RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 *BE -874-808
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
• RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 *BE -874-809
Contactor for substances in different phases - 68134B/38
• RICE/ 19.04.78 RICE D M D15 *ZA 7802-234
Water treatment process - 69887B/38
RIED 23.06.77 RIEDEL DE HAEN AG D21 E33 G01 L02 =US 4167-417
Fluorescent pigments for artificial teeth - 00487B/01
RIES/ 09.12.77 RIESS G A96 D21 =FR 2410-995
Dental surgical implant for securing crowns, bridges etc. - 24021B/13
RIKA 00.00.78 RIKAGAKU RES LABS KK B04 D16 =J5 4101-482
Specific endo-nuclease enzyme - 08718A/05
RIKA 00.00.78 RIKAGAKU RES LABS KK B04 D16 =J5 4101-483
Specific endo-nuclease enzyme - 08718A/05
RIKA 00.00.78 RIKAGAKU RES LABS KK B04 D16 =J5 4101-484
Specific endo-nuclease enzyme - 08718A/05
RIKA 00.00.78 RIKAGAKU RES LABS KK B04 D16 =J5 4101-485
Specific endo-nuclease enzyme - 08718A/05
• ROAN= 04.04.77 ROST ANTI-PLAGUE B04 D16 *SU -638-337
Vibrio phosphorescens P-9504 strain - 69472B/38
• ROAN= 04.04.77 ROST ANTI-PLAGUE B04 D16 *SU -638-338
Vibrio phosphorescens P-9506 strain - 69473B/38

ROGO/ 23.11.76 ROGOZHIN S V D12 =US 4167-590
Protein gel from fish and crustacea - 60881A/34
ROHM 27.06.77 ROHM & HAAS CO A91 B04 D15 E19 (A13 D13 D17) =ZA 7803-668
Crosslinked anion-exchange resin - 05441B/03
ROTT/ 01.03.73 ROTTNER H D11 =DS 2310-104
Dough dividing machine - 64859V/37

SAGA 30.04.71 SAGAMI CHEM RES CENTRE B05 D23 E14 =J4 7042 671
Phenylacetaldehydes prepn. - 77504T/49
SAGA 30.04.71 SAGAMI CHEM RES CENTRE B05 D23 E14 =J7 9025 033
Phenylacetaldehydes prepn. - 77504T/49
SAIR- 20.02.76 SAIRO SOC APPROV C03 D13 =CH -612-580
Extrusion die press for animal feedstuffs - 59390Y/34
SALK/ 26.02.76 SALKIN N A97 D22 =GB 1553-132
Disinfectant compsn. contg. polymer solvent - 43528Y/25
SAND- 06.12.77 SANDERSON W & SONS D14 =FR 2410-966
Press for extracting juices and volatile oils from whole fruit - 44241B/2
• SAND- 07.12.77 SANDERS A97 C03 D13 *FR 2410-964
Rodent food and rodenticides in sausage form - 68517B/38
• SANE 27.01.78 SAN EI CHEM IND KK D21 E13 *J5 4101-445
Perfume compsn. - 68824B/38
SANO 01.11.74 SANDOZ AG B04 D16 =CH -612-994
Isolation of high purity thermolabile E. coli enterotoxin - 38393X/21
• SANO 09.01.75 SANDOZ AG B04 D16 *CH -612-848
Influenza virus immunogenic components isolation - 68199B/38
• SANY 24.01.78 SANKYO KK C02 D16 E13 *J5 4101-481
Accelerating growth of callus - 68826B/38
SAOK 18.01.73 SANYO KOKUSAKU PULP D13 E13 =J4 9093-570
Prepn. of seasoning agent contg. table salt - 69246B/38
• SAOK 18.01.73 SANYO KOKUSAKU PULP D13 E13 *J7 9025-105
Prepn. of seasoning agent contg. table salt - 69246B/38
• SAPB 02.04.74 SAPPORO BREWERIES D16 *J7 9024-933
Mushroom cultivation - 69220B/38
SAPB 00.00.76 SAPPORO BREWERIES D16 =J5 1145-747
Cultivation of edible mushroom such as Shiitake - 36351B/19
SASA- 22.02.74 SASAKURA ENG CO D15 J01 =IT 1031-825
Desalination of sea water in continuous multistage evaporator 46121W/28
SASA- 20.04.76 SASAKURA ENG CO D15 J01 =DS 2717-543
Multiple effect evaporator for desalinating seawater - 59447Y/34
• SCGR 15.02.78 SOC CHIM GRANDE PAROISSE A25 D22 E16 *EP ---4-211
Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - 68495B/38
• SCGR 24.02.78 SOC CHIM GRANDE PAROISSE D15 E16 F09 H01 (D22) *EP ---4-217
Bactericidal treatment of polluted media - 68498B/38
SCHA/ 24.04.78 SCHATTNER R I D22 E19 #ZA 7802-305
Ambient sterilising compsn. contg. glutaraldehyde and phenol 72737A/41
SCHN/ 14.05.77 SCHNITZLER E F D15 =DS 2721-884
Activated sludge system of sewage treatment - 84333A/47
SCHU 16.04.75 SCHULKE & MAYR GMBH D22 E17 =DS 2516-670
Aldehyde disinfectants contg. alkyl-alkanal and or alkyl-alkanol 79374X/43
• SCIE 16.02.78 SCIENCE UNION & CIE B04 D16 *EP ---4-214
Compsn. for treating virus diseases - 68496B/38
SCOP 08.10.71 SCOTT PAPER CO A11 D22 F09 (A14 A96 F06) =DS 2249-792
Modified cellulosic sheet - 23384U/17
SEBS- 21.02.78 SEB SA A96 D12 =FR 2410-981
Domestic wax melting installation - 39020B/21
• SEIK- 10.12.77 SEIKO MATSUBARA B04 D16 *J5 4101-410
Agent for treating hepatitis - 68809B/38
SEIS 07.06.75 RES INST FOR PRODN B04 D16 =J7 9025-118
Fixation of microbial bodies - 08128Y/05
SEKI 09.09.75 SEKISUI CHEMI IND KK D16 =J7 9024-957
Cultivation of fine algae esp. Cyanophyta and Chlorophyta - 29991Y/17
• SERM- 07.12.77 SERMA ENTREPRISE D13 *FR 2410-967
Machine to cut florets from cauliflower stumps - 68518B/38
SERT- 15.04.75 SERTOF SOC B04 D23 E19 =CH -612-854
Extraction of sterolic, aromatic and terpenic cpds from plants - 79317X/4
SHIN- 28.10.76 SHINMORI SANGYO TOK A97 D16 =J7 9024-935
Seed material prodn. for growth of mushrooms - 71286A/40
• SHIN- 26.01.78 SHINETSU ENG KK D15 L02 *J5 4102-051
Mfg. additive for neutralising acidic waste water - 68953B/38
SHIO 25.08.77 SHIONOGI KK B02 C02 D22 E13 =ZA 7804-753
3-Thiadiazolyl-thiomethyl-oxa-de:thia-cephem derivs. - 01945B/02
• SHIO 07.03.78 SHIONOGI KK B02 D16 *DT 2908-848
Antibacterial antibiotic cephamycin C microbiological prodn 68393B/38
• SHPI/ 13.10.72 SHPILENOK A M D16 *SU -637-931
Prodn. of beer-type drink - 69459B/38
SIEI 01.02.78 SIEMENS AG D15 E19 J04 =SW 7900-807
Automatic determn. of organic substances in water - 40684B/23
SIEI 01.02.78 SIEMENS AG D15 J04 =SW 7900-808
Determn. of dissolved organic solids content in water - 42426B/23

EI 01 02 78 SIEMENS AG D15 J04 =SW 7900 809
Automatic dosing of predetermined quantities of several liquids - 42427B/23

IEV/ 06.03.78 SIEVER H D15 (D13) *DT 2809-493
Liquid manure utilisation - 68245B/38

IPP- 12.07.76 SIPPICAN CORP D12 =GB 1553-087
Food esp. bacon slicing and weighing - 06060A/03

MIN 19.08.77 SMITH & NEPHEW PHAR A97 D22 E36 (A14 E19) =ZA
804-581
Solid sterilising compsn. contg. iodophor and aldehyde cpd. - 00044B/01

MIR/ 25.07.75 SMIRNOV P A C03 D13 *SU -638-322
Preserving green vegetation for animal fodder - 69466B/38

NAM 21.02.75 SNAMPROGETTI SPA D13 E19 =IT 1031-932
Phenolic cpds and oligosaccharides extn from plant protein - 68717X/37

NAM 14.09.77 SNAMPROGETTI SPA D15 =ZA 7805-019
Multistage evapn. plant to desalinate sea-water, etc. - 18035B/10

NAM 25.01.78 SNAMPROGETTI SPA B01 D16 H04 #J5 4101-488
Microbiological conversions of steroids - 82981Y/47

ODR- 09.12.77 SODRA SKOGSAGARNA D22 F09 =FR 2411-265
Feed arrangement of continuous sheets of pulp to dry-laying machine - 44035B/24

QUI 10.03.78 SQUIBB E R & SONS INC B04 D16 #DT 2810-540
Antibiotic polymyxin F - 51561A/28

TAD 11.08.75 STANDARD OIL CO (OHIO) D16 =GB 1552-645
Aerobic fermentation vessel for protein prodn. - 16740Y/10

TAD 03.08.77 STANDARD OIL CO (IND) D13 (D16) *US 4167-591
Texturisation of whole cell, single cell proteins - 69834B/38

TAH/ 24.07.75 STAHLBERG W D12 =CH -612-579
Processing prepd. fish fillets, esp. herrings - 11505Y/07

TAU 21.03.74 STAUFFER CHEMICAL CO D22 =CH -612-850
Air-freshening gel free from syneresis - 65899W/40

TEI 30.03.73 STEINECKER A MASCH GMBH D13 =DS 2316-038
Cheese mould palette stacking system - 77684V/45

TEM 28.09.77 STEINMULLER L & C GMBH D15 J01 =ZA 7804-918
Exchanger resin regeneration - 26332B/14

TER 18.02.75 STERLING DRUG INC B03 D16 =CA 1061-731
Aminocyclitol antibiotics of the streptamine type - 67317X/36

TER 21.08.78 STERLING DRUG INC D15 #ZA 7804-756
Treating aq. effluent contg. organic matter with oxygen - 20019B/11

TER 29.08.78 STERLING DRUG INC D22 J01 (D15) #ZA 7804-907
Purifying odorous waste gases, esp. from water treatment - 20017B/11

TOR/ 19.11.75 STORTI O D14 =CH -612-575
Mobile machine for extracting and processing silo fodder - 40243Y/23

STRA- 11.03.78 GES FUR STRAHLEN B05 D16 *DT 2810-639
D(-)-3-Hydroxybutyric acid prodn. by oxidative fermentation - 68316B/38

SUGI/ 30.01.78 SUGIMOTO T D15 *J5 4103-255
BOD redn. of and nitrogen component removal from polluted water - 69132B/38

SULA- 24.02.78 SUOMEN LAAETEHDAS B06 D13 =GB 2015-863
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27

SUME 17.07.75 SUMITOMO ELEC IND KK A88 D15 J01 L03 (A14 A85 A96
J03) =GB 1552-942
Vinylidene fluoride an tetrafluoroethylene copolymer membranes - 08023Y/05

SUMO 25.01.78 SUMITOMO CHEMICAL KK A97 B04 D16 (A11) *J5 4101-486
Purificn. of urokinase - 68827B/38

SUMO 27.01.78 SUMITOMO CHEMICAL KK D15 E36 J04 =J5 4102-192
Analysis of nitrogen derived from nitrites and nitrates - 56291B/31

SUMO 31.01.78 SUMITOMO CHEMICAL KK D15 J04 =J5 4103-394
Analysis of total nitrogen content of aq. systems - 54496B/30

SUMO 06.03.78 SUMITOMO CHEMICAL KK A91 D15 J01 (A11) *DT 2908-185
Cellulose fibre-based ion exchanger filter material - 68362B/38

SUND- 08.03.78 SUNDERMEYER FRISCHB D15 J01 *DT 2810-008
Concrete prodn. waste settling device - 68280B/38

AKA- 12.06.75 TAKARA SHYZO KK D16 =J7 9025-120
Polygalacturonase prepn. - 08630Y/05

AKE 17.10.74 TAKEDA CHEMICAL IND KK D18 =CA 1061-530
Tobacco products and tobacco substitutes - 32268X/18

AKS 28.00.72 TAKASAGO PERFUMERY KK D23 E17 =J7 9025-092
Perfume compsns - 10052V/06

AKS 26.01.73 TAKASAGO PERFUMERY KK D23 E15 =J7 9025-093
3-Methyl-5-(3-methyl-3-hydroxybutyl)-3 cyclohexene carboxaldehyde - 58716V/33

AMM/ 10.03.78 TAMMINEN T T T D11 *EP ---4-093
Plaited pastry prodn. machine - 68453B/38

EIJ 31.01.78 TEIJIN KK A88 D15 J01 *J5 4102-291
Permselective membrane prepn., e.g. for water desalination - 69015B/38

EIJ 13.03.78 TEIJIN KK A60 D13 E36 G04 (D22) *EP ---4-073
Oxygen scavenging and heat generating compsn. - 68443B/38

EKN- 12.12.77 TEKNOTERM SYST D15 =FR 2411-161
Optimising heat energy exploitation in sewage treatment plant - 45952B/25

EPR- 02.04.75 GIE TEPRAL D16 =CA 1061-729
Bitter principle prepn from hops - 81509X/44

* TEXC- 12.04.77 TEXAS VET LAB INC B04 C03 D16 *US 4167 560
Polyvalent shipping fever vaccine - 69820B/38

THIL/ 15.02.74 THILLET A D12 =IT 1031-583
Automatic head-opening machine for cattle - 80606W/49

TIVE- 14.09.77 TIVET DEV LTD D12 =ZA 7805-207
Moulding sausages etc. with coherent skin-like surfaces - 22039B/12

TOBC 12.06.73 TOBACCO RES & DEV INST D18 =DS 2428 399
Non destructive hardness testing of gas permeable articles - 82522V/47

* TOKE 30.01.78 TOKYO SHIBAURA ELEC LTD D15 E36 J04 *J5 4102-183
Colorimetric analysis of low concn. hydrogen peroxide soln. - 68965B/38

TOMA/ 18.10.76 TOMADINI G D11 =US 4167-068
Spaghetti drying conveyor - 30501A/17

TORA 13.02.78 TORAY IND INC A88 D15 J01 (A25) ' =GB 2016-024
Reverse osmosis membrane contg. tri:isocyanurate polymer - 61748B/34

* TOYE 26.01.78 TOYO PULP KK D15 F09 *J5 4101-901
Treating alkali pulp waste liq. - 68938B/38

TOYM 01.04.72 TOYOBO KK A94 D15 (A14 A23) =J7 9024-987
Reverse osmosis membrane compsns. - 74807V/43

TOYM 14.12.74 TOYO SPINNING KK B04 D16 =J7 9024-877
Clinical inspection of heart and liver disease - 58698X/31

TOYM 14.12.74 TOYO SPINNING KK D16 =J7 9024-878
Glutamic acid oxaloacetic acid amino gp transferase activity - 58880X/31

* TOYM 31.01.78 TOYOBO KK D16 J04 (D17) *J5 4103-395
Determn. of amylase activity - 69139B/38

* TUCK/ 06.04.78 TUCKER C N D22 *ZA 7801-975
Plant splint - 69883B/38

UBUC- 23.09.76 UBUCHIM SOC PERSONN D15 J02 =CH -612-594
Rotary agitator for contacting gas and liquid - 07630Y/05

UENO 08.03.78 UENO SEIYAKU OYO D12 =DT 2907-204
Preparing ground frozen fish used for fish pastes - 47240B/26

UENO 08.03.78 UENO SEIYAKU OYO D12 =GB 2015-866
Preparing ground frozen fish used for fish pastes - 47240B/26

UKSO- 17.02.78 UK SEC SOCIAL SERV B04 D16 =EP ---4-137
Antigenically active bacterial cell envelope prepn. - 63491B/35

* ULEA= 18.04.77 UKR LEATHER SHOE D18 *SU -637-433
Drum for liquid treatment of hides - 69355B/38

UNIC 23.09.75 UNION CARBIDE CORP D23 E14 =DS 2641-821
(2)-Phenyl ethanol prepn. from styrene oxide - 23879Y/14

UNIC 19.07.76 UNION CARBIDE CORP D12 =CH -612-890
Fastening for gathered end of large sausage casing etc. - 06362A/04

UNIC 09.03.78 UNION CARBIDE CORP D12 =DT 2908-784
Inserting sizing disc into casing esp. for viscous meat emulsion - 56110B/30

UNIC 09.03.78 UNION CARBIDE CORP D12 =GB 2015-864
Inserting sizing disc into casing esp. for viscous meat emulsion - 56110B/30

UNIL 26.05.72 UNILEVER NV A96 D21 (A25 A26) =J7 9025-090
Hair-spraying compsn - 78024U/51

* UNIL 28.12.73 LEVER BROS CO D22 E37 *US 4167-561
Disinfecting surfaces with inorganic hypochlorite aq. soln. - 69821B/38

UNIL 31.12.76 UNILEVER LTD D23 E17 =ZA 7707-711
Selective hydrogenation of polyunsaturated cpds. esp. fats - 47773A/27

* UNIL 16.05.77 UNILEVER NV D13 E17 (D25) *US 4167-523
Thiol-carboxy-methoxy-succinic acid cpds. - 69801B/38

* UNIL 16.05.77 UNILEVER NV D13 E16 (D25) *US 4167-524
Carboxymethyl-oxy-succinic tri:halide cpds. - 69802B/38

UNIL 07.12.77 UNILEVER NV B06 D21 E34 (E33) =FR 2411-003
Anticaries tooth-paste contg. sodium mono:fluorophosphate - 44416B/24

UNIL 12.01.78 UNILEVER NV D24 =J5 4102-309
Deodorising textile washing compsn. - 54834B/30

UNIL 13.01.78 UNILEVER NV D21 (D24 D25) =J5 4101-443
Deodorant compsn. for treating skin - 54853B/30

UNIL 13.01.78 UNILEVER NV D22 (D21) =J5 4101-444
Deodorising article for use on human skin - 54852B/30

UNIL 01.02.78 UNILEVER NV D25 =NO 7900-300
Spray dried detergent powder compsn. prodn. - 56302B/31

UNIL 01.02.78 UNILEVER NV D25 =SW 7900-857
Spray dried detergent powder compsn. prodn. - 56302B/31

UNIL 02.03.78 UNILEVER NV D25 E33 =NL 7901-668
Sodium aluminosilicate aq. suspension for detergent mfr. - 63167B/35

UNIL 06.03.78 UNILEVER NV D21 E19 =DT 2907-793
Aq. liq. soap contg. sulphonated ester or amide - 66686B/37

* UNIL 13.03.78 UNILEVER NV D13 *BE -874-778
Spray stencilling design on food prod. esp. ice cream - 68123B/38

UNIL 14.03.78 UNILEVER NV D13 =BE -874-779
Jojoba oil coating agent for foods - 68612B/38

* UNIL 14.03.78 UNILEVER LTD D13 *GB 2016-042
Jojoba oil coating agent for foods - 68612B/38

UNIT- 27.12.77 UNITEK CORP D21 M26 =J5 4100-923
Dental gold platinum alloy - 06018B/03

UNIV 04.09.75 KANSAS STATE UNIV C03 D13 =CA 1061-633
Liquid starch-NPN ruminant feed supplement - 84880X/45

UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2411-189
Decomposition prods. of rubradirin antibiotics - 84365A/47
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2411-190
Decomposition prods. of rubradirin antibiotics - 84365A/47
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2411-195
Decomposition prods. of rubradirin antibiotics - 84365A/47
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2411-203
Decomposition prods. of rubradirin antibiotics - 84365A/47
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =FR 2411-206
Decomposition prods. of rubradirin antibiotics - 84365A/47
USBO 13.01.76 US BORAX & CHEM CORP A97 D25 E14 (D22) =CA 1061-675
Antimicrobial cleaning compsn. esp. for bathroom use - 34539Y/20
*USDA 19.07.76 US SEC OF AGRICULTURE A97 D16 (D13) *US 4167-447
Insolubilised, active enzymes prepn. - 69755B/38
*UYNE- 13.07.77 UNIV NEW HAMPSHIRE D16 *US 4167-450
Maintenance-state culture of single-cell microorganisms - 69756B/38
UYSC- 07.03.75 UNIV SC MALAYSIA D23 =US 4167-519
Olein and stearin fraction separation from on oil - 08771A/05

VEKE- 14.05.73 VER KESSELWERKE AG D15 =DS 2324-351
Sewage treatment sludge concentrating plant - 45323V/25
VEVG- 06.02.78 VER VAN GEBRUIKERS D15 =DK 7900-442
Anaerobic treatment plant for effluent - 58028B/32
*VITA/ 24.02.75 VITAGLIANO M D23 *IT 1031-979
Olive oil prodn. by-products processing appts. - B/38
VITZ/ 03.06.71 VITZTHUM O D13 =US 4167-589
Tea with low caffein content - 80818T/51
VOIJ 28.01.78 VOITH J M GMBH D15 E12 F09 =NO 7900-263
Purifying waste water from old paper processing - 58253B/32
VOLK- 21.03.75 VEB VOLKSWERFT STRA D12 =SU -638-319
Opening gill covers of fish for beheading - 40060X/22
*VOLP/ 26.06.78 VAN OLTHEN G C D16 *ZA 7803-631
Wine making process using screening centrifuge - 69901B/38
VORH- 27.06.77 VORHAUER LAB INC A96 B07 D22 E14 =ZA 7803-627
Contraceptive biologically compatible tampon sponge - 01868B/01
VYSO- 07.02.75 VYSOKA SKOLA CHEM D16 F09 #CH -612-993
Yeast proteins prodn from waste sulphite liquor - 67111X/36

WARN 20.01.71 WARNER-LAMBERT CO D23 E15 =DS 2202-469
Terpene reodorants - 52378T/33
WARN 02.02.78 WARNER-LAMBERT CO A97 D13 =SW 7900-900
Sugarless centre-filled chewing gum - 45645B/24
WEAR- 06.02.78 WEAR-EVER ALUMIN IN D13 =DK 7900-473
Portable popcorn appliance - 60190B/33
*WEIS- 03.03.78 GEB WEISS KG D16 *DT 2809-344
Compost producing device - 68238B/38
*WELA 09.03.78 WELLA AG A96 D21 *DT 2810-130
Hair setting polymer or mesh fused by heating - 68289B/38
WERN 26.03.77 WERNER & PFLEIDERER D11 =GB 1553-172
Dough mixing and kneading machine - 71038A/40
WERN 26.03.77 WERNER & PFLEIDERER D11 =US 4167-340
Dough mixing and kneading machine - 71038A/40
WERN 03.02.78 WERNER & PFLEIDERER D11 =DK 7900-331
Multideck baking oven - 60053B/33
WERN 03.02.78 WERNER & PFLEIDERER D11 =SW 7900-781
Multideck baking oven - 60053B/33
WHIT/ 18.02.76 WHITE M J E A96 D21 =GB 1552-868
Dental prod. for oral hygiene - 63306Y/36
WIEL- 05.05.77 FA WIELAND T D21 M26 =DS 2720-158
Copper-free gold casting alloy contg. indium - 84231A/47
*WIEL- 13.07.78 FA WIELAND T D21 M26 *DS 2830-759
Silver based alloy for dental amalgam - 68212B/38
*WILL/ 10.04.74 WILLARD M J D13 *US 4167-588
Prepn. of fabricated baked potato prods. - 69833B/38
WORL- 22.11.76 WORLD RESOURCES CO D15 M25 =GB 1553-058
Recovery of precious metal values from waste water - 50149Y/28
WORL 17.03.77 WORLD RESOURCES CO D15 M25 #GB 1553-057
Recovery of precious metal values from waste water - 50149Y/28
WYSS 01.03.78 ESCHER WYSS AG A32 D14 J02 =NL 7901-099
Calender with stack of flexible sleeve cylinders - 66516B/37

*YOSH/ 23.01.78 YOSHIDA R D13 (D16) *J5 4101-447
Germanium-rich foodstuff prepn. - 68825B/38

ZAID 04.10.76 ZH BISEIBUTSU KAGAKU KEN B04 D16 =US 4167-448
Amastatine A1, A2, A3, B1, B2 aminopeptidase A inhibitors - 55160A/31
*ZAMB/ 21.04.76 ZAMBROVSKAYA E V A91 D15 M11 *SU -638-549
Metal plating industry waste water purificn. - 69563B/38

9 R D
7003-306 R38
2010-832 R40
3542-207 R45
2029-579 S13
-901-976 T25
1300-724 T51
-160-730 B31
2010-832 B38

86-S ADF
2009-349 S17
2064-228 S41
1299-963 T50
-972-501 W35
2009-349 B38

45-S CD
3576-643 S18
9024-959 B38

96-S DE
-767-636 S48 +
7106-021 S51
2026-832 S51
7000-168 T04
2097-816 T21
2110-060 T38
B 1321-386 U26
S 3801-610 V15
S 3816-483 V25
S 2026-832 W45
S 2110-060 B38

247-T AD
E -769-921 T04
T 2134-938 T05
L 7109-576 T05
R 2101-650 T27
A 7104-563 T36
S 3766-011 U44
H -542-282 U51
B 1357-798 V26
A -951-659 V32
4035-419 V42
S 2134-938 B38

566-T CD
S 3671-261 T27
9024-958 B38

378-T DE
T 2202-469 T33
R 2127-005 U04
B 1311-060 U12
A -987-597 X19
S 2202-469 B38

679-T CDEJ
T 2201-284 T34
S 3846-567 V46
E 7200-451 W44
A -979-338 W52
U -461-486 X06
H -576-277 X29
L 7200-685 T34
4 7016-373 T37
R 2123-477 T52
L --98-618 U41
B 1346-152 V06
L -102-899 V13
7 9024-981 B38

5248-T D
T 2106-954 T35
S 2106-954 B38

6144-T AD
E -779-279 T35
L 7201-764 T36
T 2106-819 T39
4 7018-908 T40
A 7200-866 T45
R 2125-396 U02
H -573-467 X19
S 2106-819 X23
S 3969-134 X30
7 9025-043 B38

1473-T DE
T 2216-421 T45
E -781-710 T47
S 3811-830 V22
A -954-796 V40
B 1379-991 W02
H -574-239 X23
S 2216-421 B38

77504-T BDE
DT 2219-455 T49 +
J4 8004-426 U42
US 3845-076 V45
J7 8000-088 X05
US 3962-281 X25
J7 7016-107 Y22
J7 7020-448 Y39
DS 2219-455 A24 +
J4 7042-671 B38
J7 9025-033 B38

80818-T D
NL 7207-534 T51
BE -784-226 T51
DT 2127-642 U03
FR 2140-098 U13
GB 1333-362 U41
DS 2127-642 W12
CH -570-773 X07
US 4167-589 B38

81234-T DJ
BE -784-604 T51
NL 7208-312 U01
DT 2229-456 U03
FR 2142-184 U14
ZA 7204-160 U17
GB 1369-566 V41
CA -969-091 W26
DS 2229-456 Y14
J4 8009-979 B38
J7 9024-984 B38

23384-U ADF
NL 7213-612 U17
DT 2249-792 U19
FR 2155-661 U33
J4 8061-707 U45
GB 1412-002 W44
CA -987-457 X19
DS 2249-792 B38

30885-U D
NL 7215-090 U22
DT 2254-652 U23
US 3742-961 U29
J4 8096-796 V10
GB 1361-129 V30
CH -560-021 W17
CA -977-644 W48
NL -154-925 Y49
DS 2254-652 B38

46005-U AD
NL 7300-941 U33
BE -794-449 U33
DT 2303-175 U36
FR 2169-200 U47
GB 1366-624 V37
J4 8077-077 B38
J7 9025-099 B38

69644-U CDE
NL 7304-575 U46
BE -798-551 U46
DT 2220-016 U47
FR 2182-020 V05
J4 9020-116 V20
US 3892-806 W28
OE 7404-965 X20
GB 1437-021 X22
US 3977-859 X37
CA 1006-538 Y12
CH -589-606 Y34
DS 2220-016 B38

73255-U D
NL 7306-373 U48
BE -799-417 U48
DT 2222-966 U49
FR 2184-056 V07
J4 9047-193 V28
DS 2222-966 V43
OE 7304-078 W31
J7 9024-951 B38

78024-U AD
DT 2325-645 U51
BE -800-087 U51
NL 7307-236 U51
FR 2182-252 V05
J4 9041-547 V25
PT --59-908 V52
ZA 7303-499 W10
US 3928-558 X01
GB 1424-002 X06
OE 7304-506 X07
CH -574-238 X23
CA -997-270 X41
DS 2325-645 A06
J7 9025-090 B38

01478-V D
BE -801-808 V01
NL 7307-664 V51 +
DT 2329-091 V52 +
NO 7302-112 W02 +
SW 7307-359 W03 +
DK 7303-281 W08 +
FR 2233-940 W14 +
J5 0019-957 W18 +
DS 2329-091 W21 +
GB 1412-801 W45 +
CS 7307-131 X06
J7 9025-098 B38 +

10052-V DE
J4 8072-342 V06
J7 9025-092 B38

18182-V D
J4 8024-979 V10
J7 9025-342 B38

23361-V D
DT 2345-798 V13
NL 7311-095 V13
FR 2198-704 V23
ZA 7304-649 V27
J4 9062-670 V34
CH -556-143 V52
GB 1402-977 W33
US 3922-375 W50
CA 1011-985 Y26
NL -158-691 B02
DS 2345-798 B38

29299-V D
DT 2347-425 V16
FR 2200-172 V25
GB 1397-707 W25
US 3889-810 W26
DS 2347-425 B38

36560-V D
BE -809-516 V20
NL 7400-125 V30
DT 2300-606 V31
FR 2213-235 V44
CH -574-876 X23
GB 1450-222 X39
DS 2300-606 B38

45323-V D
BE -808-258 V25
NL 7400-741 V48
DT 2324-351 V50
SW 7316-159 W01
CH -558-306 W09
FR 2229-653 W10
GB 1436-398 X21
DS 2324-351 B38

58716-V DE
DT 2403-631 V33
NL 7401-032 V33
J4 9094-849 W08
GB 1432-073 X16
J7 9025-093 B38

59937-V DH
DL -106-196 V34
SU -638-613 B38

64859-V D
DT 2310-104 V37
DS 2310-104 B38

68073-V ABD
DT 2312-824 V39
BE -812-243 V40
NL 7403-317 V40
SW 7403-426 V46
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636 82895Y D15J01 + P7
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* 997	68786B	D15E36J03

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* 778	68865B	D15

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* 934	69221B	D16P1
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* 107	69247B	D13
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# 443	69901B	D16

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* 424	69346B	D16
* 425	69347B	D16
* 426	69348B	D16
* 427	69349B	D16
* 428	69350B	D16
* 429	69351B	B04D16
* 430	69352B	D16
* 431	69353B	D16
* 432	69354B	D16F09
* 433	69355B	D18
* 619	69422B	D17R1
* 642	69428B	D15E36J04R1
* 645	69430B	D13R1
* 671	69444B	B04D16J04R1
* 931	69459B	D16R5

SU -638

* 307	69460B	D14P1Q5
* 309	69461B	D15E35P1
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* 323	69467B	D13
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* 338	69473B	B04D16
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* 356	69485B	D15J01
* 505	69552B	D15H03Q2
* 544	69558B	D15J01
* 549	69563B	A91D15M11
* 581	69595B	C04D13E35
* 589	69602B	D22E16
* 597	69610B	D23E13
* 599	69612B	B04D16
* 600	69613B	D13
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* 614	69625B	B04D16
* 615	69626B	D16
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* 713	69677B	D16M25Q4

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* 447	69755B	A97D16
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* 450	69756B	D16
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* 523	69801B	D13E17
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* 585	69831B	D13Q7
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* 587	69832B	D13
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* 591	69834B	D13
* 630	69851B	B02C02D22
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ZA 7707

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ZA 7800

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ZA 7801

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ZA 7802

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ZA 7803

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ZA 7804

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ABSTRACTS

INDEXES

- **II - PATENTEE**
- **V - BASIC NUMBER**
- **VII - PATENT NUMBER**

Section D:

FOOD
DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	17 SEP - 24 SEP 79	874,848 - 875,084
-Non Delayed	3 SEP 79	876,124 - 876,267
BRAZIL	11 SEP 79	7,708,232 - 7,904,495
CANADA	11 SEP 79	1,061,951 - 1,062,400
DENMARK	3 SEP 79	7,800,576 - 7,900,611
E. GERMANY	4 JUL 79 + 11 JUL 79 +	99,067 - 132,458
	18 JUL 79 + 25 JUL 79	136,328 - 136,786
W. GERMANY		
-DAS	20 SEP 79	1,457,988 - 2,901,728
-OLS	20 SEP 79	2,347,374 - 2,910,759
FRANCE*	13 JUL 79	2,411,546 - 2,412,241
	(BOPI 17 AUG 79)	
UNITED KINGDOM	26 SEP 79	1,553,191 - 1,553,560
		2,016,251 - 2,016,880
ITALY	30 MAY 79	1,032,001 - 1,032,500
JAPAN		
-Unexamined	—	47,022,860 - 54,068,481
	15 AUG - 21 AUG 79	54,103,501 - 54,106,567
-Examined	30 AUG - 5 SEP 79	79,025,681 - 79,026,760
NETHERLANDS	10 SEP - 16 SEP 79	7,802,416 - 7,901,959
NORWAY	3 SEP 79	7,800,415 - 7,900,434
RES. DISCLOSURE	SEPTEMBER 79	185,001 - 185,071
FINLAND	31 AUG 79	7,703,809 - 7,900,102
SOVIET UNION	—	638,816 - 643,540
SWEDEN**	10 SEP 79	7,800,498 - 7,906,484
UNITED STATES		
-Reissues	18 SEP 79	Re30,096 - Re30,099
-Patents	18 SEP 79	4,167,792 - 4,168,541
PCT	20 SEP 79	7,900,673 - 7,900,709

*Printed patents actually published mid September, 1979

**Includes numbered Basics from Weeks B22,B25 and B28

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

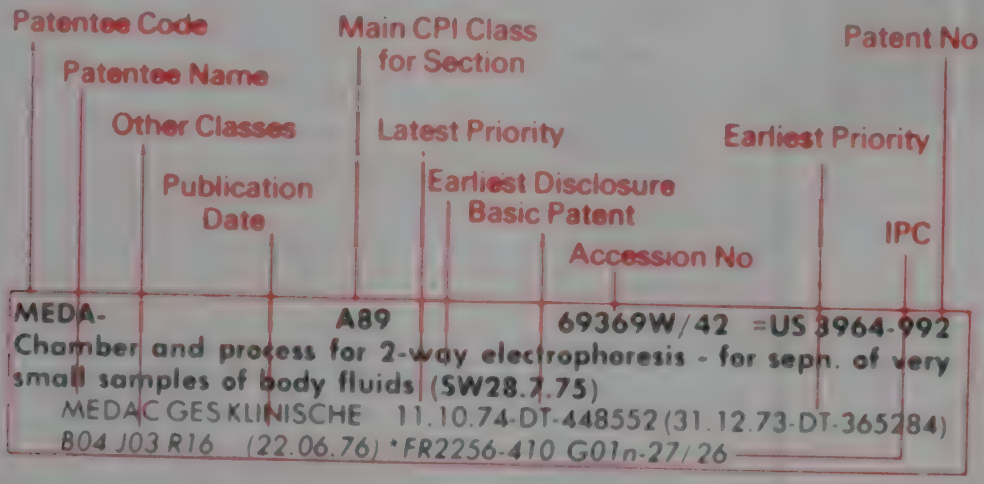
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- **A89** **69369W/42** **=US 3964-992**
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11: BAKING

LOBO/ ★ D11 B/39 ★BR 7801-139
Gas oven for roasting cassava
LOBO A R 18.01.78-BR-001139
(11.09.79) A21b-01/28

RITT/ ★ D11 69993B/39 ★DL -136-341
Baking flour mixing system - merging pneumatically conveyed doses in common mixing silo
RITTER G 26.05.78-DL-204515
(04.07.79) B01f-05

Two or more grades of different flour are mixed in the bakery industry by extracting each grade from its silo separately at a rate which corresponds to the desired mixing ratio. These separate supplies are merged in a mixing silo where the turbulence caused by the merging streams creates a homogeneous flour mixture.

Anotherpneumatic conveyor line takes the flour from the mixing silo to the day batch silo. This saves the high power consumption for mixing screws and the supply interruptions to weigh the charges It produces flour of very homogeneous quality. 26.5.78 as 204515 (4pp39)

QPPP ★ D11 70794B/39 ★J5 4105-249
Stable food compsns. - comprises shaped alpha-lysed starchy food immersed in soln. of dextrin or dextrin alcohol
Q.P. CORP 02.02.78-JA-010782
(18.08.79) A23l-01/10

The compsn. consists of (a) α-lysed starchy food of definite shape and (b) a soln. of dextrin or dextrin alcohol, in which the starchy food is immersed. Softening and integration of starchy food such as rice, macaroni, spaghetti, Japanese noodles, buckwheat noodles, etc. due to absorption of water and swelling, can be suppressed and the α-lysed starchy food can be preserved for a long time without change in form, texture, taste and flavour.

Dextrin is used at a concn. of 5-30 w/w% and dextrin alcohol is used at a concn. of 5-35 w/w% depending on the desired water content of the α-lysed starchy food. 2.2.78 as 010782 (5pp5)

HIRA/ ★ D11 70795B/39 ★J5 4105-255
Bread mfr. using flour and rice powder - with hot water extract of yeast and emulsifier(s) added to dough to improve quality
HIRANUMA Y 03.02.78-JA-010529
(18.08.79) A21d-02/36

The method comprises fermenting, kneading the main dough, fermenting the main dough, finishing, roasting and burning. The dough is prepd. from flour 95-80 w/w%, rice powder 5-20 w/w%, yeast, water, etc. The dough is combined with 0.3-2.5 w/w% of the hot water extract of yeast and 0.2-1.0 w/w% of $\geqslant 1$ emulsifier selected from glycerin fatty acid ester, sucrose fatty acid ester and sorbitan fatty acid ester.

Excellent bread, can be prepared without using viscosity-increasing agent such as gluton, natural gum etc. The prepd. bread is voluminous and of excellent colour, gloss, form, texture, taste and flavour, tissue, etc. 3.2.78 as 010529 (5pp5)

GOLD/ ★ D11 71174B/39 ★SU -639-503
Bread-baking oven with steam-moistening attachment - fed with wet steam from a steam generator mounted in the vault of the combustion chamber
GOLDYAK A A 22.09.76-SU-407831
(30.12.78) A21b-03/04

Break-baking oben, of the dead-end type, comprises a fire chamber, steam-generator, made in separate sections, steam-moisturing device, and system of pipelines. The quality of the bread is improved and loss in baking is reduced, by positioning the steam generator inside the vault of the combustion chamber and connecting by the pipeline system to the steam-moistening device.

Under the effects of the heat of the combustion chamber the water inside the steam-generator placed in the upper vault is converted into wet steam with the help of the steam collector and pipes feed it into the baking chamber in order to moisten the dough pieces. Such design ensures optimum temp. and steam-moistening regime inside the oven.

Goldyak A.A., Bul. 48/30.12.78 22.9.76 as 407831 (2pp29)

CASI/ D11 20076S/11 =SU -640-667
Non-watersoluble pentosanes as bread- - making adjuvants
CASIER J (CAS /) 09.10.69-LU-059598
*(30.12.78) *BE-755-788 +C13k-13*

Non-water-soluble pentosanes, useful as adjuvants in brea-dmaking or as gelling agents, are produced by treating one or more gramineous plants with a base sufficiently strong to extract the non-watersoluble pentosanes from the cells of the plant material but without solubilising the starches thereof, this treatment being effected at least temporarily at temps. up to 55°C, pref. 53-55°C at pH 13-8, pref. 11-12.5, for 24-48 hrs. opt. under an inert atmos. e.g. N_2.

The soln. obtd. is then electrodialysed at pH above 6 and spray dried. If desired, the grass plant material e.g. whole plants, seeds, stems, roots, leaves, etc. may be extracted with formaldehyde, alcohol, ether, etc. prior to the alkali treatment.

Kaze J., Bul. 48/30.12.78 9.10.70 as 482360 (2pp)

ELEK- ★ D11 B/39 ★SW 7801-548
Baking oven with air circulation fan - has valve that can block air inlet to oven chamber, so that air simply circulates inside heater chamber
ELEKTRO-DAHLEN AB 10.02.78-SW-001548
(10.09.79) A21b-01/24

A fan circulates air from a heater along an inlet channel, down a distributor channel, through the oven chamber and into a collector channel for return to the heater. The collector channel is directly opposite the distributor channel.

A two-posn. valve occupies the inlet channel and/or the collector channel. In one posn., the valve allows air circulation through the oven chamber as above. In its other posn., the valve blocks the inlet channel so that air circulates from the fan into the collector channel and back to the heater. 10.2.78 as 001548 (-pp1407)

UYAL- D11 59768B/32 =US 4168-334
Bread baking in earthenware pans - coated with terra sigillata to prevent adhesion
ALFRED UNIV RES FOU 27.04.77-US-791507
*L02 (18.09.79) *US4162-334 +A23l-01 C04b-35/14*

Cookware comprises a shaped, fired ceramic body having a fired layer comprising terra sigillata on at least the cooking surfaces of the body, the terra sigillata closing only a portion (esp. 30-60%) of the pores of the surfaces of the body.

Pref. the ceramic body is a brickware body, esp. of Alfred Shale. Pref. the cookware is in the shape of a bread pan. Bread baked in the pans has the taste and physical qualities of bread baked on a brick oven. The baked bread releases easily from the pan. 27.4.77 as 791507 (6pp992)

D12 : MEAT ; FISH PROCESSING

SCHM/ ★ D12 69989B/39 ★DL-136-329
Fish filleting machine attachment - with power cylinder adjusting transport chain height for fish size
SCHMIDT U 02.05.78-DL-205119
(04.07.79) A22c-25/16

An attachment for a fish filleting machine helps to guide the vertebral column under the guide plates after the fish bones have been cut free. Support elements for the endless chain conveyor are operated by a power cylinder and can be varied to suit the size of fish.

This makes the filleting machine suitable for a wider range of fish sizes. 2.5.78 as 205119 (6pp39)

GROT/ ★ D12 70092B/39 ★DL-136-697
Carcass scapula extraction device - with wire rope looped around the bond and linked to a motorised chain drive
GROTHE P 26.05.78-DL-205604
(25.07.79) A22c-17

A device for the mechanical extraction of bones, such as the scapula, from animal carcasses (beef and pork) consists of a wire rope which is looped around the bone. One end of the rope is attached to the collar of a handle and the other is linked to a traction medium, pref. a motorised chain drive.

This device is simple to operate and saves the manual labour for the scapula extraction. It causes a min. of meat losses. 26.5.78 as 205604 (11pp39)

GROT/ ★ D12 70093B/39 ★DL-136-698
Carcass scapula extraction device - with wire rope looped to the bone and linked to a power cylinder
GROTHE P 26.05.78-DL-205605
(25.07.79) A22c-17

A device for the extraction of bones such as scapulas from animal carcasses consists of a wire rope which is guided in a loop through a collar and fixed to it at one end. The other end is linked through a compression spring to an actuator, such as a hydraulic cylinder, which can develop a tractive force.

This saves the heavy manual labour for the extraction operation. The productivity is raised and the device is easy to mfr. 26.5.78 as 205605 (8pp39)

VERS- ★ D12 70189B/39 ★DT 2811-340
Sausage skin with longitudinal seam - enclosing sewn-in tear cord for easy unwrapping
VERSMOLDER FLEISCHW 16.03.78-DT-811340
(20.09.79) A23c-13

The skin is, in addition to the clips and hooks at each end, provided with a longitudinal seam along its length, in which a tear cord has been sewn in. By tearing on the cord, the seam is opened and the sausage contents can be readily separated from the skin.

Instead of tearing the threads of the seam, a double chain stitch can be used for the longitudinal seam so that the pulling of one of the threads releases the loops of the seam without having to destroy any threads. This makes it easier to peel the skin off a sausage. 16.3.78 as 811340 (7pp39)

PLAT/ ★ D12 70306B/39 ★FR 2411-570
Preparing flavoured ham - by incorporating flavouring agents inside the ham before cooking
PLATEAU P 19.12.77-FR-038175
(17.08.79) A23b-04/02

The process comprises dressing and brining the fresh ham in the normal manner and after leaving for about 24 hrs., it is de-boned and the rind and fat are carefully sepd. from the lean. The outside of the lean is then covered with a thin layer of flavouring agents and it is then dusted with food quality gelatine. The rind and fat are then replaced around the treated lean and before or after this, the space left in the lean by removal of the bone is filled up with flavouring agents. Finally the ham is moulded, cooked, cooled and removed from the mould.

The process ensures flavouring of the whole of the ham rather than just the surface and also gives a better fixation of the flavourings, particularly when the ham is sliced. The pref. flavouring is a mixture of Provence herbes and Alping Artemesia esp. in equal weights. 19.11.7 as 038175 (8pp597).

ATTE/ ★ D12 70353B/39 ★GB 2016-25
Prod. contg. fat globules surrounded by proteinaceous materials useful for making extrudable meat prods.
ATTECK L A G 30.04.79-GB-014893 (01.02.78-GB-003995)
(26.09.79) A23l-01/31

Prod. comprises ≥1 globule of fat (A) surrounded by proteinaceous material (B). Pref. (B), and therefore the prod., is hydrophilic; and is esp. defatted animal fat connective tissue. (A) is esp. animal fat.

The wt. ratio (A):(B) is ≯5:1, esp. 1:1, and (B) may additionally contain up to 20 wt.% absorbed water. The prod is made by reducing animal fat to small pieces, heating t render at least some fat, then sepg. rendered fat leaving the rest of the fat surrounded by (B). Water is pref. adde to the fat pieces esp. at 70-60°C.

The prod. is used to make extrudable meat prods. whic set quickly on heating and have minimal shrinkage and frying loss. 30.4.79 as 914893 (3pp1251)

KULS- ★ D12 70354B/39 ★GB 2016-257
Preserving freshly caught fish - by injecting gaseous carbon dioxide at various levels into vessel hold to displace air
KULSYRE-& TORISFABR 26.04.79-GB-014598 (14.03.78-GB-010145)
(26.09.79) A23b-04

Fish are preserved by placing in a vessel hold compartment, removing from the compartment the water draining off the fish over a period, injecting gaseous carbon dioxide to displace virtually all the air and fill all spaces between fish, and sealing the compartment until unloaded.

The carbon dioxide is pref. injected through hand-held lances inserted through a top opening or through a fixed distributor, at different depths. The fish are pref. disturbed by injecting carbon dioxide under pressure into the compartment lower end, and dry ice may also be placed in the compartment together with the fish. The method is more effective than the use of dry ice alone. 26.4.79 as 014598 (5pp1358)

BROU- ★ D12 70355B/39 ★GB 2016-258
Appts. for sepg. meat scraps from bones - with piston reciprocable to intermediate compacting position and final extruding position
HOLDING BROUWER M & 17.03.78-NL-002947
(26.09.79) A22c-17

An appts. for sepg. meat scraps from bones includes a press-chamber having a press-piston within it. The piston is movable between an initial position and a final position near the opposite end of the chamber from its initial position.

The piston can be driven within the chamber in two phases, one comprising an active partial stroke from the initial position to a position intermediate the initial and final positions and the other comprising an active full stroke from the initial to the final position. Pref. the full operating cycle of the appts. also includes a second active partial stroke. 16.3.79 as 009396 (5pp295)

DGIA/ ★ D12 B/39 ★IT 1032-255
Auxiliary table for holding pig carcass - during butchering and filleting
DI GIANCARLO C 13.01.78-IT-046803
(30.05.79) A22c

ZUEV/ ★ D12 71420B/39 ★SU-640-728
Pigs slaughtering and bleeding - by positioning them under suspended carriage from which an electric stunner and hollow bleeding knife act on the animals
ZUEV N G 23.12.75-SU-306346
(10.01.79) A22b-03

Device for slaughtering and bleeding animals, primarily the stunning of pigs with an electric current, includes an attachment for holding the animal in place and a hollow

ife with a rubber hose. The process is mechanis by
king the device as a carriage. L-shaped supporting fr-
e with sensors mounted on the carriage so that it can
ove horisontally relative to the animal, and a plate for
ientation of the hollow knife. The latter is hinged on the
shaped frame so that it can move vertically, with the
ife provided with a drive and mounted on a small plate.
The animal is held in position and the conveyor stops.
e carriage at the top moves along the suspended track
the direction of the animal. The lower part of the frame
ntains a light-sensor, which determines when the ray
light falling on it has been cut off by the animal's front
gs. The electrical-stunning attachment is lowered to
un the animal prior to slaughter. The hollow knife is
ought into position and moved so that it enters along
e sternum and the front legs. The drive is actuated so
at the knife kills the animal and the blood is removed
to a container. A time relay determines the length of
me of the bleeding process. The dead animal falls on
the conveyor and is removed for further processing.
uev N.G., Bul. 1/5.1.79 23.12.75 as 306346 (2pp29)

VSL- ★ D12 71524B/39 ★SW 7713-180
uffing or meat mixt. moulding appts. - makes patties or steaks by
eding mixt. alternately to two apertures in reciprocating plate,
nd punching out
SVERIGES SLAKTERIFO 22.11.77-SW-013180
(25.06.79) A23p-01

ORM- D12 46004U/33 = US RE30-096
Moulded food products - with continuous feed of food material
nder pressure to moulding machine inlet
FORMAX INC (FOR -) 24.01.72-US-220323 (14.11.77-US-851620)
*+Q56 (18.09.79) *NL7300-937 A22c-07*

igh speed food patty moulding machine includes a cycli-
ally operable mechanism which supplies food simultane-
usly to all the cavities in the mechanism; two food pumps
perable by plunges; a device to supply food to each pump;
manifold connecting the pump outlets to the inlet of the
echanism, an actuation for ensuring that one of the
umps always contains food, a valve to seal off a pump
rom the manifold after the food has been discharged, the
apacity of each pump being several times the capacity of
ll the cavities in the mechanism.

The machine is inexpensive and can be easily cleaned.
4.11.77 as 851620 Reissue of 3887964 (19pp1376)

VRIG/ ★ D12 71537B/39 ★US 4167-901
Meat dehydrator heated by domestic light bulb - with meat
upporting grill and surrounding aluminium cylinder
WRIGHT D C 30.06.78-US-921028
Q76 (18.09.79) A23b-04/04 F26b-19 F26b-25/06

meat dehydrator includes a circular base with a raised
erimeter lip on which stands a circular grill whose
erimeter is no greater than the perimeter of the lip of
he base. Brackets extend outwardly from the perimeter
f the grill to mount a cylinder with an open top and bottom which forms a chamber above the grill. There is a gap between the bottom of the cylinder and the base to allow air circulation.

A lid is movably mounted on the upper open end of the cylinder and on the centre of this a heating element may be mounted to extend downwardly into the chamber.

The dehydrator is designed esp. for domestic use.
30.6.78 as 921028 (6pp295)

BIRD/ ★ D12 71682B/39 ★US 4168-418
Appts. for rendering meat and blood to give dried prod. - using microwave energy angled for reflection along rendering chamber
BIRD L L 07.09.77-US-831177
R59 (18.09.79) H05b-09/06

Appts. comprises a cabinet contg. an elongate driven conveyor for transporting the materials from one end to the other of the cabinet. The cabinet and belt are formed of a substance which reflects microwave energy. The belt also includes perforations to drain off water and fat.

Microwave generators direct energy into the material on the belt. The energy inputs are angled so as to cause reflection of the microwave energy. At least one of the inputs is inclined at an acute angle and at least one other at an obtuse angle to give at least one region where there is intense rendering.

The appts. renders materials such as dead animal carcasses to obtain a dried meat product which can be used in animal feedstuffs, bone meal or fertilizers. The appts. uses the microwave energy efficiently. 7.9.77 as 831177 (11pp295)

KART- D12 52826B/29 = US 4168-431
Determining the fat content in meat products - by polychromatic irradiation in three energy stages and measuring attenuated intensity
KARTRIDG PAK CO 06.01.78-US-867364
*J04 R16 (18.09.79) *DT2853-629 G01n-23*

The quantative relationship of components having different molecular make-up is determined by appts. which has X-ray generators for producing X rays at three different tube excitation potentials and directing the X-rays at an item to be analysed, the third X-ray beam produced continuing with the first two to provide inputs for eliminating inaccuracies due to surface roughness, a monitor to detect and measure the intensity of each of the beams after passing through the item, and a processor to automatically calculate from the measurements and calibration valves the percentage of one of the components.

Components having different densities and thickness can be analysed, such as fat in meat. 6.1.78 as 867364 (9pp1376)

See Also

D15 J7 9026105

D13: OTHER FOODSTUFFS

CORP ★ D13 69953B/39 ★BE -876-125
Starch and animal feed prodn. from wheat grain - by combined dry and wet milling
CPC INTERNATIONAL INC 11.05.78-US-904953
C03 P41 (03.09.79) B02c C13l

Continuous refining of wheat is carried out by first dry-milling the whole grain to give an endosperm fraction, a wheatgerm fraction, a fibre (bran) fraction and a middlings fraction. The endosperm fraction is then wet-milled by macerating, separating the larger particles from the smaller grinding the larger particles and recombining them with the smaller particles, and macerating the mixt. to form a starch slurry.

Residual fine fibres are sepd. from the starch slurry, which is then sepd. into a starch-rich fraction and a protein-rich fraction. The protein-rich fraction is then concd. and mixed with the bran fraction, the middlings fraction, the wheatgerm fraction and the residual fine fibres to form a moist product, which is then dried to obtain an animal feed.

The process gives high yields (e.g. 52%) of high-quality type-A starch and high yields (e.g. 48%) of animal feed as a useful by-product; short maceration times can be used. 9.5.79 as 876125 (25pp367)

MATV ★ D13 B/39 ★BR 7900-371
Moulding material for use with toy moulding machine
MATTEL INC 17.02.78-US-878855
P36 (11.09.79) A23j-03 A63h-09 A63h-33/26 C08l-89

YAKI/ ★ D13 69990B/39 ★DL -136-331
Feed additive for animals and poultry - contains perchlorate salt on porous carrier, for improving wt. gain and feed utilisation
YAKIMENKO L M 05.05.78-DL-205219
C03 (04.07.79) A23k-01/17

Compsn. for improved feeding of animals and poultry contains a perchlorate of formula $X(ClO_4)_n$ (I) (where X is alkali or alkaline earth metal or NH_4; n is the valency of X) on an inert, orally acceptable carrier.

Pref. the ClO_4^- ion content is 5-50, (15-35) wt. % and pref. (I) are Mg and/or Ca perchlorates. The carrier may be inorganic, esp. perlite, silica gel or diatomaceous earth, or organic, esp. sawdust or grass meal. The compsn. may also contain NaCl or an alkaline earth chloride.

Compsns. improve wt. gain and feed utilisation and in sheep increase wool yields. Compsns. are practically nontoxic and prod. no side effects, and the addn. of a carrier reduces the explosion hazard associated with (I). This is further reduced by incorporation of the NaCl or alkaline earth chloride. 5. 5. 78 as 205219 (26pp1251)

DUAN/ ★ D13 69992B/39 ★DL-136-340
Liquid mixing system for beverages - under oxygen exclusion in plate type heat exchanger at great turbulence
DUAN L 27.04.78-DL-205045
(04.07.79) B01f-03/08

Liquids, used for the prepn. of fruit juices and other beverages, are extracted from storage containers and pumped through a mixing tube into a plate-type heat exchanger under exclusion of atmospheric oxygen. The mixture is cooled or heated in it at an intense turbulence. After de-aeration in a tank, the beverage is pumped to the bottle filling machine A feedback recycles any excess to a return tank upstream of the mixing tube.

This provides a continuous system of high labour productivity, and low expenditure for energy and apparatus. 27. 4. 78 as 205045 (6pp39)

BALL/ ★ D13 70094B/39 ★DL-136-699
Continuous butter prodn.from cream - by supplying energy, sepg. buttermilk and kneading butter mass with addn. of mixing water
BALLA A 21.02.78-DL-203770
(25.07.79) A23c-15/02

Cream contg. esp. 35-50% fat is charged to a 1st unit, and is applied with sufficient mechanical energy/unit vol. to effect an accurate, complete transition to a butter grain buttermilk mixt. The butter-grain-buttermilk mixt. is charged to a 2nd processing unit where butter grain having a min. basic water content is sepd. completely from buttermilk, to form a butter mass having a min. constant water content, esp. < 15%, corresponding to the basic water content of butter grain.

This butter mass is charged to a 3rd processing unit, where it is kneaded, to achieve the required consistency of the end-prod. butter. Dosage water is mixed with the prod. to achieve a required end prod. water content. Quality parameters can be maintained. 21. 2. 78 as 203770 (12pp200)

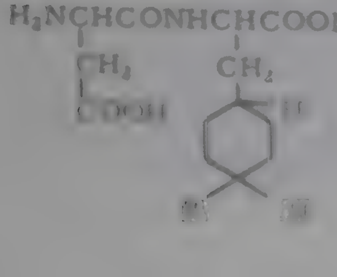
STAR/ D13 27293F/00 =DS 1692-193
Preservation of food products by introducing under
STARKE A (STAA) 27.12.65-OE-011669
*B05 E17 (20.09.79) *BE-691-714 +A23c-09/08*

Food, which after drying contains capillary and other passages opening outwards, is made stable to storage. Dried milk or cream is added under high vacuum and then the vacuum at least partly lifted while ethyl alcohol is added as a poison to fermentation. The alcohol is added in an amt. such that the prod. contains 0. 3wt. % and fermentation is stopped immediately.

The dried food may be packed in linen bags and then treated by the process. 21. 12. 66 as 692193 (4pp068).

SEAR D13 82782R/44 =DS 2022-499
Sweetening compn contg l-aspartyl-l-phenyl - alanine
SEARLE G D & CO 09.05.69-US-823482
*B05 E14 (20.09.79) *BE-750-131 A23l-01/23*

Dipeptides of formula (I) are used as sweetening agents. In (I), R is H or OH; and L, L; DL, DL; DL, L or L, DL configurations are present. In particular, sweetening agents comprise L-asparaginyl-L-phenylalanine methyl ester, (25 mg); and saccharin, (4 mg); opt. dispersed with nontoxic solid carrie and pressed into tablets.



(I)

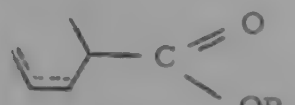
Other sweetening aids, such as cyclamates or carbo hydrates, are opt. present. 8. 5. 70 as 022499 Add to 1936159 (4pp047).

NEST D13 68727X/37 =DS 2522-
Solubilising casein by wetting-out then adding solubilising age with apparatus including washing, milling, and drying means
SOC PROD NESTLE SA 20.03.75-CH-003555
*(20.09.79) *BE-838-794 A23j-01/20*

A suspension of powdered calcium phosphide or rennet casein in aq. medium is solubilised. The casein suspe sion, contg. $\leqslant$ 270g (180-240g) casein/l. aq. medium is allowed to ripen for > 10 minutes (½ hour). Citric or phosphoric acid is then added gradually so that the pH does not fall below 4. 6. Then an alkaline agent, e.g. Na- or K- hydroxide or (bi)carbonate, is added graduall when citric acid was used to a pH value of $\geqslant$ 6. 8 and whe phosphoric acid was used to a pH value of $\geqslant$ 7. 5. 21. 5. 75 as 522508 (5pp068).

INFL D13 10541X/06 =DS 2530-2
Compsns contg unsatd 2-methyl-pentanoic acids and esters - for u as flavouring and aromatising agents
INT FLAVORS FRAGRANCES 21.04.75-US-569853 (22.07.74-U 490718)
*B05 E17 P15 (D18 D23) (20.09.79) *NL7508-619 A23l-01/ A24b-15/04 A61k-07/46 C07c-57/02 C07c-69/52*

2-Methylpentenoic esters of formula (I), 2-methyl-cis-pen 3-enoic acid and their mixts. are new. In (I), one of the two dotted lines denotes a C-C π-bond, esp. a cis π -bond at C_3-C_4; and R n hexyl or isoBu. Prepn. of mixts. of 2-methyl-cis-pent-3-enoic acid or its esters (I), (> 60wt. %); and 2-methylpent-4-enoic acid and/or 2-methylpentanoic acid and/or their n-hexyl or isobutyl esters, (< 40wt. %), con -prises catalytic hydrogenation of corresp. alkyl 2-methy -penta-3, 4-dienoates with Raney Ni, Pd/C or Pd/$CaCO_3$ at 10-100° about 0. 34-5. 5 atm; opt. followed by alkaline hydrolysis of the esters and recovery of the prods. by fractional distillation. The prods. are used as flavouring and aroma additives in foods, pharmaceuticals, cosmetic perfumes, tobacco or tobacco products, chewing gum, etc 7. 7. 75 as 530227 (+22. 7. 74, 8. 4. 75 -US-490719, 566118) (17pp047).



(I)

CHCC D13 20310Y/12 =DS 2625-668
Granular sorbic acid prepn. - by extruding powder in presence of water opt. contg. wetting agent
CHISSO CORP 09.04.76-JA-040051 (16.09.75-JA-111892)
*A97 E17 (20.09.79) *DT2625-668 C07c-57/10*

Granular sorbic acid is obtd. from (a) powdered sorbic acid with a particle size of <0. 210mm and > 20wt. % is less than 20 μm, or (b) powdered sorbic acid of particle size < 0. 210mm contg. a wetting agent. The granules are obtd. by extrusion in the presence of water. Sorbic acid is useful as a food additive and is more easily handled as granules. 8. 6. 76 as 625668 (+16. 10. 75 -JA-124677) (5pp048).

GERK D13 79455Y/45 =DS 2633-659
Sheet material prepn. from beet root pulp, esp. sugar beet - by milling, drying, adding water and calendering
GERLACH E GMBH 27.07.76-DT-633659
*C03 + P15 Q43 (D17) (20.09.79) *BE-856-573 A23k-01/14 A24b-15 B29j-01 C05f-05 E04b-01/74*

Tobacco smoking substitute comprises disintegrated fresh beet, esp. Beta vulgaris, which is compacted with a binding agent, moistening additives and fillers, wrapped in foil, rolled and dried. The beet particle size is 0.1-1mm with moisture content 30-50wt. %. Volatile solvents such as MeOH and/or CH_2Cl_2 may be present. Pref. additives are glyoxal, dialdehyde starch and various polyols. Pref. binding agents are polyvinylpyrrolidone, methyl- and carboxycellulose, guar meal and gum arabicum. The rolled prods. are pref. subjected to high tempe. (about 400°) for a short period. 27. 7. 76 as 633659 (5pp047).

ABR ★ D13 70165B/39 ★DT 2810-730
Flavouring agent pepper cinnamon or turmeric emulsion prepn. - by mixing oleoresin soln. or dispersion with an emulsion stabiliser soln.
BUSH BOAKE ALLEN 13.03.78-DT-810730
(20.09.79) A23l-01/22

Two-step flavouring agent resinoid emulsion prepn. comprises first forming a soln. or dispersion of a resinoid contg. a non-volatile component and a pepper, cinnamon or turmeric oleoresin by heating the oleoresin to 70-110 (80-110)°C, in 1-25 (2-15) pts. wt. AcOH/100 pts. wt. non-volatile component of the oleoresin. This soln. or disper-sion, at 70-110°C, is mixed and emulsified with an aq. or colloidal soln. of an emulsion stabiliser.

Emulsions contg. an encapsulating agent, e.g. as stabiliser, may be (spray) dried to form micro-encapsulated food aromatising prods., esp. for sauces, soups, meats and vinegar.

The emulsions are stable for >1 wk. 13.3.78 as 810730 (18pp200)

NEUM/ ★ D13 70187B/39 ★DT 2811-208
Straw decomposition to protein-contg. feedstuffs - by moistening with yeast soln. and fermentation during storage
NEUMAIER R 15.03.78-DT-811208
C03 (D16) (20.09.79) A23k-01/12

Straw moistened with an at least 3-5% yeast soln., partic. of top yeast, is decomposed and stored until ripe for use as animal feedstuff. The feedstuff can be fed directly or used as a feed additive. The prod. can also be used for pure protein prodn.

The addn. of chemicals, which must be removed after decomposition, is prevented. Nutritional value of prod. is increased, e.g. digestible raw protein content can be increased >700% after a short storage time. Alcohol formation provides protection against foreign bacteria and can lead to the formation of esters having a pleasant smell. 15.3.78 as 811208 (10pp200)

BAUD/ ★ D13 70190B/39 ★DT 2811-356
Liq. milk shake or pudding prepn. - using compsn. contg. skim milk, whipping agent, pectin, malto-dextrin, sugar and sodium citrate
BAUDACH G 16.03.78-DT-811356
(20.09.79) A23c-09/10

Milk shake, opt. contg. flavouring agents is prepd. by mixing a basic prod. consisting of pure milk, sugar and swensing a basic prod. consisting of 86.2% skin milk, 3.45% whipping lling agents and contg. 86.2% skin milk, 3.45% whipping agent free from milk fat and saccharose, 0.2% pectins, for stabilising and sweetening, 8.65% sugar and 0.2% Na citrate.

The basic prod. can be used for preparing a liq. milkshake or a pudding. Refrigeration of milk shake basic prod. is no longer necessary. 16.3.78 as 811356 (11pp200)

HAYB ★ D13 70259B/39 ★DT 2909-093
Syrup contg. oligosaccharide(s) with fructose terminal gps. - prepd. by the action of an immobilised cyclodextrin-glucano-transferase on a mixt. of liquefied starch and fructose or sucrose
HAYASHIBARA BIOCHEM 09.03.78-JA-026017
B04 (D16 D21) (20.09.79) A23l-01/22 A23l-02 A61k-07/16 A61k-47 C12d-13/02

The prepn. of syrups and syrup solids contg. oligosaccharides with fructose terminal gps. comprises exposing a mixt. contg. liquefied starch and either fructose or sucrose to the action of an immobilised cyclodextrin-glucanotransferase.

The cyclodextringlucanotransferase is obtd. by cultivating microorganisms such as bacteria of the genus Bacillus or Klebsiella. The enzyme is then immobilised e.g. by bonding to a substrate, crosslinking or by inclusion methods.

The syrups and syrup solids can be used as flavourings and sweeteners, and although they are digestible and absorbed in vivo, they produce fewer caries in teeth than sucrose does. The syrups and styrup solids are also non-crystallisable and of a desirable viscosity. They can be used in various foodstuffs, beverages, sweets, oral medicaments, cosmetics, toothpastes, and gargles. 8.3.79 as 909093 (24pp1401)

PAIL/ ★ D13 70307B/39 ★FR 2411-573
Preparing alcohol flavoured sorbets - from sugars, protein, stabilisers, lemon juice or acidifying agent and alcohol
PAILLON P 15.12.77-FR-038550
(17.08.79) A23g-09/02

The alcohol flavoured sorbets, sterilised prepns. for preversing and sorbets prepd. for consumption, are prepd by mixing sugars, animal or vegetable proteins, stabilisers, lemon juice and/or natural or synthetic acidifying agents, white or amber coloured alcohol and water.

At present, the sorbets are generally sprayed at the moment of serving with the particular alcohol required. The above enables an intimate mixture with the alcohol and storage problems are simplified for the sorbets and the alcohols required. A further advantage is that the product does not require low temp. storage; when required for serving the product is emptied from containers into a freezer for making sorbets. 15.12.77 as 038550 (8pp).

PROC D13 25634Y/15 =GB 1553-253
Symmetrical diglyceride recovery from glyceride mixt. - by mixing with nonpolar and polar solvents and crystallisation from soln. (BE060477)
PROCTER & GAMBLE CO 06.10.75-US-619741
*E17 (D21) (26.09.79) *DT2644-916 C07c-69/30 +C11d-11*

Symmetrical diglycerides are recovered from glyceride mixts. comprising monoglyceridds, diglycerides and triglycerides contg. 12-22C fatty acyl gps.

Process comprises first forming a homogeneous mixt. of (a) solvent comprising mixt. of non-polar hydrocarbons and polar organic solvents, and (b) fatty glyceride, 15-70 % symmetrical fatty glyceride, 1-40% asymmetrical fatty glyceride, 8-50% fatty monoglyceride and 0-10% glycerine.

Crystallisation of solid, symmetrical fatty diglyceride (I) from the mixt. is induced and maintained, while maintaining the temp. below the satn. temp. of (I) and above the satn. temp. of the remaining components. Pref. the crystallisation is induced by removing solvent. 5.10.76 as 041294 (8pp936)

KYOW D13 33772A/19 =GB 1553-548
Inductively heat treating gelatin - to improve its properties e.g. cold water solubility, and give prod. for use in foods, pharmaceuticals, photography and adhesives
KYOWA HAKKO KOGYO K 28.10.76-JA-129700
*B07 G03 (G06) (26.09.79) *DT2748-405 +C07g-07*

The properties of gelatin are modified by subjecting gelatin, of moisture content >8 wt.%, to microwave heating to remove 35 wt.% of the water content and give a gelatin of water content ≯16 wt.% of the total wt. of treated gelatin and water. Pref. the gelatin is heated to 80-105°C. while being enclosed in a microwave radiation-permeable material having small apertures, esp. PTFE, glass wool or kraft paper.

The process is cheap and simple. The water-solubility of the gelatin is improved, while other properties such as gelling ability and appearance are retained. The prod. is used in e.g. food prods. It gives gels whose strength and stability are unchanged in the presence or absence of additives. 27.10.77 as 044840 (17pp976)

INAL- ★ D13 B/39 ★IT 1032-008
Press for removing whey in cheese prodn.
COMB IND ALIMENTARE 22.01.71-IT-047888
(30.05.79) A23c

CAVA/ ★ D13 B/39 ★IT 1032-011
Alcoholic soln. of tea with additives - such as milk, lemon, orange, sugar and ascorbic acid
CAVANI A 22.03.71-IT-049206
(30.05.79) A23f

TOXW ★ D13 70597B/39 ★J5 4103-900
Extraction and purification of active plant component - involves prodn. of adsorbent in extract e.g. by addn. of metal salt to form metal hydroxide
TOYO INK MFG KK 26.01.78-JA-006753
B04 (15.08.79) A23l-01/22 C07g-17 C07h-01/08

The process comprises (1) removing contaminants using adsorbent which is produced in the plant extract, (2) removing salts from the resulting plant extract and (3) recycting the salts obtd. in (2) to extracting solvent or the extract, and opt., (4) purifying the extract obtd. in (2), by ion exchange resin and (5) recycling the salts produced on regeneration of the ion exchange resin used in (4), to the extracting solvent or the extract.

Since the salts produced are sepd. in the step can be re-used, the method produces less waste liq. The adsorbent is produced in the plant extract, used, e.g., by neutralisation method which comprises adding metal salt to the plant extract to form the metal hydroxide which is used as adsorbent. Thus produced adsorbent removes effectively the contaminants, and there can be obtd. the transparent extract. The metal salt is, e.g., Na aluminate, Mg chloride, etc. 26.1.78 as 006753 (7pp108)

NIPK ★ D13 70715B/39 ★J5 4105-078
Tackifier for animal feeds - contg. sodium polyacrylate and guaiac gum
NIPPON KAYAKU KK 31.01.78-JA-008826
A97 C03 (A14) (17.08.79) A23k-01/20

Tackifier used for pellet feed, crumble feed, etc. for domestic animals, domestic fowl, culture fish, etc. contains (a) one part of sodium polyacrylate (PANA) of mol. wt. 200000 pref. 10^6-10^7, and (b) 0.1-10 pts. guaiac gum.

The tackifier prevents dispersion of the feeds, enchances their handleability of feeds, the amt. of feed ingestion, and increases feed efficiency. Pref. the tackifier is used as 0.01-0.5% (esp. 0.05-1)% based on the wt. of feed. 31.1.78 as 008826(4pp117)

KYOW ★ D13 70716B/39 ★J5 4105-081
Breeding young fish, young shell etc. - using a small feed organism comprising yeast contg. omega- 3-higher unsatd. fatty acid or ester
KYOWA HAKKO KOGYO KK 27.01.78-JA-007392
C03 P14 (17.08.79) A01k-61 A23k-01

Small feed organism composed of yeast contg. (omega)-3 higher unsatd. fatty acid or its ester (ω-3 HUFA), e.g. bread yeast or beer yeast contg. eicosahexenoic acid, eicosapentenoic acid, docosapentenoic acid, docosahexenoic acid, etc., is used as feed for breeding fry young fish, young shell, etc., or as feed for breeding small feed organisms, e.g. Rotifera, etc., which are used for breeding marine fry young fish, young shell, etc.

The use of small feed organism, e.g., Rotifera, etc. contg. a sufficient amt. of ω -3 HUFA increases the growing rate of the fish and shell to a great extent, and gives them excellent survivial rate. The addn. of 2.0-5.0% -3 HUFA to yeast usually gives rise to better results. 27.1.78 as 007392(4pp117)

HIRA/ ★ D13 70796B/39 ★J5 4105-264
High quality pickled vegetables prodn. - by adding chlorella extract-sodium L-glutamate cpd. powder to the pickling soln.
HIRANUMA A 30.01.78-JA-008353
(D16) (18.08.79) A23b-07/10 A23l-01/21

The method comprises adding to the pickling bed 0.3-30 w/w% of chlorella extract-sodium L-glutamate cpd. powder contg. stable effective ingredients of chlorella extract which is prepd. by spray-drying a mixt. of 1-9 w/w% of hot water extract of chlorella and 99-91 w/w% of sodium L-glutamate.

The added powder reduces sourness and saltiness and gives pickled vegetables with excellent texture, colour, gloss, taste, flavour, etc. The effective ingredients can be more stably retained than conventional chlorella extract. 30.1.78 as 008353 (4pp5)

FUJI/ D13 97298X/52 =J7 9025-909
Reductive bleaching with sulphurous acid gas - by generating the gas from a sulphur contg. acid gas in a closed vessel
FUJISHIMA D 10.05.75-JA-056391
*E36 (31.08.79) *J51130-688 C11d-07/54*

The process comprises placing a S-contg. acid salt of formula MnS_2Ox (I) (where M is NH_4 or a metal; n is a no. dependent on the valency of M; and x = 2-5), and a SO_2-absorption agent together with the material to be bleached, in a closed vessel; generating SO_2 gas by the reaction of the salt and oxygen so as to bleach the material with the SO_2 gas; and removing the remaining SO_2 gas with the absorption agent after bleaching.

Pref. (I) is a thiosulphate $(NH_4)_2S_2O_3$, $Na_2S_2O_3$, CaS_2O_3 etc.), dithionite $(NH_4)_2S_2O_4$, $Na_2S_2O_4$, CaS_2O_4, etc.) or pyrosulphite ($Na_2S_2O_5$, $(NH_4)_2S_2O_5$, CaS_2O_5, etc.). The bleaching does not cause environmental pollution and can be easily carried out. 10.5.75 as 056391 C11d-7/54 (31.8.79) FUJISHIMA, D. (3pp) (J51130688)

CORP ★ D13 71099B/39 ★RD -185-01
Edible protein prods. prepn. - by hydrolysis, de-oiling, ac treatment etc., of crude corn gluten meal
CPC INTERNATIONAL INC 20.08.79-RD-185019
*C03 (10.09.79) A23k-00/**

Prepn. of corn gluten protein (I) is effected from highly c -oured and strongly flavoured corn gluten meal by variou treatments, A slurry of the gluten may be treated with enzymen, or hydrolysed with acid or the solid may be sepd centrifugally to give a material with solubilised starch. This material when dry is extracted with an alcohol to remove colour, flavour and oil.

Alternatively the gluten is deoiled directly to give a (I) prod. Deoiling may also be achieved by aq. extn. at ≥ pH 8.5. The prods. may be solubilised by acid treatment e. with H_2SO_4 or esp. with H_2SO_4, when part of the protein i converted to amino acids. Similar procedures are applied to spent corn germ flour from wet milling to give an edibl protein prod.

(I) and the related prods. are protein sources suitable for use in foods, esp. for addn. to soya protein. The starting corn materials are usually only suitable for use in animal feeds. By-prods. in the gluten treatments may be use in animal feeds. (1248)

HAAS/ D13 43182T/27 =SU -639-417
Creme -filled wafer cone - helically wound, sealed, filled, cut and th and hardened afterwards
HAAS F (HAA /) 17.12.70-OE-011367
*(25.12.78) *NL7117-149 A21c-15/02*

Wafer strip supplied from continuous working wafer baking machine is guided over rolled with slightly concave surface. Roller is placed at a pre-determined angle w.r.t. a hollow winding mandrel. Wafer strip is helically wound, with slight overlaps onto the mandrel while a creme substance fed through the mandrel completely fills the cone shaped prod. An inclined positioned jet steam to the wedge shaped gap between overlaps where the roller applied pressure to the wafer strip, to form a sealed cone shaped prod. A cutter e.g. circular saw cuts the cone in predetermined lengths.
Haas F., Bul. 47/25.12.78 17.12.71 as 725201 (2pp)

PETZ- D13 74184X/40 =SU -639-418
Milk chocolate mass continuous prodn. - with homogeniser relieved of task of expelling excess water and odours
MASCH PETZHOLDT J S 12.03.75-DT-510708
*(27.12.78) *DT2510-708 A23g-01*

A mass of milk chocolate is produced from roasted and finely ground cocoa beans, together with cocoa butter, lecithin, sugar and milk powder, by kneading, rolling, homogenising and refining in a continuous process.

In successive operations, the beans are kneaded and mixed continuously as alternate batches in a double mixer, with the addn. of cocoa butter and milk powder. Whilst one batch is being mixed, the other mixed and kneaded batch is dehumidified, in a thin layer processer, cocoa butter, lecithin and sugar being then added and the mass homogenised, whilst the next batch is continuously drawn off from the mixer.

The process uses less energy to achieve the same quality and output, and is fully continuous. Investment costs and energy consumption reduced 3.4 and 2.5 times relatively to those of conventional prodn. methods.
Schmitt A., Bul. 47/25.12.78 12.3.76 as 331954 (2pp

MLFO= ★ D13 71175B/39 ★SU -639-504
Sublimation drying of fruit puree - involves adding sorbitol before drying to improve hygroscopicity of product
MOLD FOOD IND RES 05.04.76-SU-342752
E17 (30.12.78) A23b-07/02

In freeze drying of fruit puree, prod. hygroscopicity is reduced by adding 0.25-0.5; by wt. of sorbitol before drying. After adding the sorbitol the mixt. is dried with a sublimation temp. of -17°C, max. temp. at the prod.

rface of 45-50°C, residual pressure of 0.45 mm Hg and ndensation surface temp. of -35°C.

The sorbitol also assist in preservation of vitamin C d carotene, and it improves organoleptic qualities.

inberg N.Kh., Popovskii V.G , Bul. 48/30.12.78 4.76 as 342752 (2pp1358)

H/ ★ D13 71176B/39 ★SU -639-505

getable esp. cabbage, fermentation appts. - has container with ccessive layers in polyamide mesh webs raisable from one side easy discharge

TIKHANE N M 08.12.74-SU-085674

A92 (30.12.78) A23b-07/12

ne appts. comprises a container largely below floor vel and into which cabbage is loaded in mesh bags each ith a loop for lifting out. The bags are formed by a web ith end rods and rod holders at the container top.

The loop is on one rod which can be raised by a lifting echanism. The container pref. has an elastic insert onforming to its shape to facilitate removal of residues of abbage and brine. The web is e.g. of polyamide fibre nd has thickened longitudinal edges. For discharge, the od at one side of each successive bag is held fast while ne other side is raised so that the content are discharged a transporter.

ikhane N.M., Bul. 48/30.12.78 8.12.74 as 085674 pp1358)

RTI= ★ D13 71177B/39 ★SU -639-506

rystalliser for making sweets - which are removed from conical rod arriers by spring-loaded rods and slide plates

ARTISTIC DES TECHN 21.03.77-SU-464847

(30.12.78) A23g-03

he crystalliser for prodn. of sweets partic. 'Nabat' has ncreased throughput. It comprises a jacketed bath with a rame to which are fixed stationary strips mounting prod. arriers, spring-loaded rods mounted in sockets and movble apertured plates. The sockets are secured to the nds of the strips and the rods are connected to the plates which are located under the strips.

rmatov A.U., Kiiko V.A., Bul. 48/30.12.78 21.3.77 as 64847 (3pp1358)

CONF= ★ D13 71178B/39 ★SU -639-507

Chewing gum based on coniferous balsam - contg. glycerol, unflower oil, ethereal oil microcapsules, sugar powder, syrup and water

CONFECTIONERY RES 19.04.77-SU-477539

(30.12.78) A23g-03/30

Chewing gum is prepd. by mixing plasticised basic material with microcapsules of ethereal oils (I) sugar powder, syrup and other components, and shaping the mixt.

By initially dispersing the ethereal oils in the syrup, (heated to 40-45°C) and by introducing the sugar powder in two stages, viz one third of it at 60-65°C and the remainder at 50-55°C, the quality of the prod. is improved and the consumption of the ethereal oils is reduced.

Nikiforova V.N., Bardyshev I.I., Buinova E.F. et al. Bul. 48/30.12.78 19.4.77 as 477539 (2pp70)

KINA/ ★ D13 71179B/39 ★SU -639-508

Casein prodn. by coagulation from skimmed milk - includes adding whey in two stages at increasing acidity and temp. to accelerate casein pptn.

KINAREVSKAYA A I 03.05.76-SU-357579

A11 (30.12.78) A23j-01/20

Casein is obtd. by coagulation from skimmed milk. The coagulation is effected by adding acidic whey and mixing. Then a part of the whey is withdrawn, and the resulting curd is mixed with further acid whey. The sepd. curd is subsequently compressed comminuted and dried.

The process is accelerated by carrying out the coagulation of the casein in skimmed milk by addn. of acidic whey at 38-40°C and acidity 40-45°T; after 1-1.5 mins.. a part of the whey is withdrawn; the resulting curd is mixed with further whey (having a temp. of 52-55°C) until the acidity reaches 75-76°T; when the addn. of the whey is stopped, the stirring is continued for 5-10 mins.

Kinarevskaya A.I., Bul. 48/30.12.78 3.5.76 as 357579 (2pp70)

NONB= ★ D13 71180B/39 ★SU -639-509

Carbohydrate substitute fodder additive for non ruminants - obtained from liquor squeezed out from peat, neutralised with lime and partly evaporated used in animal bird etc. breeding

NON BLACK EARTH AGR 13.01.77-SU-445124

C03 (30.12.78) A23k-01

Carbohydrate fodder additives can be produced from vegetable wastes by a process comprising neutralisation with $Ca(OH)_2$ and subsequent drying.

The base of waste materials processed in this manner can be extended by utilising the liquor squeezed out from peat during the processing of the latter. The peat liquor is filtered; neutralised with $Ca(OH)_2$; evaporated at 105° C until the sugar concn. reaches 15-50% and allowed to settle at 35-40°C; the ppte. is sepd. and discarded; the resulting liquor contains 40% of solids (20% of sugar); the pH is 4.5.

Ernst L.K., Naumenko Z.M., Lapinskaya S.I. et al. Bul. 48/30.12.78 12.1.77 as 445124 (2pp70)

TAKA= ★ D13 71181B/39 ★SU -639-510

Jellied fruit sweets prodn. line - includes static helical blade mixer to permit increased acid content

TALL KALEV CONFECTI 27.09.77-SU-528268

(30.12.78) A23l-01/06

A prodn. line includes a boiler, a vapour separator, an ingredients mixer and a cooler. To improve quality by adding an enhanced amount of acid, a static in-line mixer is located ahead of the cooler, and a residues melter is located between this mixer and the cooler.

The static mixer pref. comprises variously directed helical plates within a cylindrical housing. Sugar agar and water are mixed in the boiler and brought to the required concn. and then passed by a metering pump through filter and boiling column to a separator. Then acid, alcohol and other ingredients are added. The mixt. is passed through a static mixer with heating jacket, delivering a sheet of mixt. to a strip cooler, cutter and glazer.

Kyark Yu.A., Khristoforov E.I., Argus K.Ya., Bul. 48/30.12.78 27.9.77 as 528268 (2pp1358)

POTA= ★ D13 71182B/39 ★SU -639-511

Potato feedstuff manufacturing process - includes combined blanching and predrying with hot gas, to reduce process time and improve quality

POTATO FOOD PROD 16.05.77-SU-490738

C03 (30.12.78) A23k-01/14 A23l-01/21

Feedstuff is produced by washing potatoes, chopping, sulphiting, blanching, pre-drying, granulating and drying. To reduce process time and improve prod. quality blanching and pre-drying are carried out simultaneously with hot gas at 90-190°C to give a moisture content of 35-47%.

Suboch F.I., Davydenko I.A., Bul. 48/30.12.78 16.5.77 as/490738 (2pp1358)

EFRE/ ★ D13 71183B/39 ★SU -639-512

Agricultural products e.g. fruit and vegetables preservation - includes use of air ionised by plasma torch or glow discharge appts. to increase storage period

EFREMOV V V 06.10.75-SU-179824

(30.12.78) A23l-03/36

Food prods., esp. fruits or vegetables opt. in the liquid state or powdered, can be preserved by the action of air-ionised by a plasma torch or a glow discharge appts.

The quality of the prods. is improved and the storage period can be extended by performing the action of ionised air at 5-15°C in an electric field of 7-14 kV/cm.

In the case of liquid or pulverulent prods., the ionised air is passed through the whole mass.

Efromov V.V., Kolesnikov B.I., Polshakov A.B., et al Bul. 48/30.12.78 6.10.75 as 179824 (2pp70)

FRLU- D13 81626X/44 =SU -640-636

Protein extraction from leafy green vegetation, esp. lucerne - by pressing to recover a partly-dehydrated cake and a juice from which protein concentrates are recovered

FRANCE LUZERNE 04.11.74-FR-036627

*(03.01.79) *FR2294-647 A23k-01/14*

Treating leafy, green vegetable material, esp. fresh lucern, comprises (a) wet-treating the crude material with

10-1 parts liq. medium so as to flocculate the proteins inside the tissue while retaining most of the pigments inside the plant so that the press-juice contains very little pigmented protein; (b) pressing to the required level of partial dehydration to separate a cake (c) of moisture content well below that of the starting material and a brown juice (BJ) representing 40-60 wt.% of the original and having a high protein content; (c) conventionally drying (C) (d) treating (BJ) to eliminate entrained pigments and flocculate cytoplasmic proteins; (e) recovering flocculated proteins to leave a liquid effluent (the serum (S)) which is pref. partly recycled to stage (a).

Simultaneous prodn. of fractions with various protein contents useful in human or animal nutrition. Compared with conventional drying, energy requirements are reduced by 50%.

Gastino V., Dematan O., Dieu D., Bul. 48/30.12.78
4.11.75 as 186411 (9pp)

BIRD= ★ D13 71416B/39 ★SU -640-719
Washing and disinfecting incubated poultry eggs - with dilute aq. acetic acid soln. satd. with ozone for high activity
BIRD REARING RES 14.04.77-SU-477304
P14 (08.01.79) A01k-43

Cheaper washing and disinfection of incubated poultry eggs is based on using water at 40-50 °C contg. 1-3 g/l acetic acid while bubbling through with ozoneated gas (e.g. O_2, air) to give O_3 concn. 3-5 mg/l. The moving liquid removes dirt which is filtered off.

Krivopishin I.P., Burtov Yu.Z., Bul. 15/5.1.79 14.4.77 as 477304 (2pp114)

ORSH= ★ D13 71421B/39 ★SU -640-729
Appts. for edible milk caseinate prodn. - in which coagulant soln. is metered continuously via rotating grooved drum ahead of expansion nozzle
ORSHA MILK COMBINE 29.12.76-SU-436547
(10.01.79) A23j-01/20

The appts. comprises a storage tank and pump for skimmed milk, a pasteuriser, a pump supplying coagulant, a mixer and a coagulator. In order to improve protein quality by ensuring full coagulation a coagulant metering device ahead of the mixer comprises a cylinder with a calibrated diffuser outlet and holding a turbine drum with parallel surface grooves.

The grooves are pref. at an angle to the drum longitudinal axis, and the drumend facing the outlet is conical. The metering unit delivers a continuous accurate flow of 25-30% $CaCl_2$ soln. as a mist via the drum and nozzle outlet into the milk entering the tubular mixer.

Lenkov N.T., Marchuk P.S., Tarksh Ya.A.; Bul. 1/
5.1.79 29.12.76 as 436547 (2pp1358)

ANIM= ★ D13 71422B/39 ★SU -640-730
Compsn. for preservation of fodder - contg. formic, acetic and propionic acids, common salt and water to prevent rotting and mould growth
ANIMAL HUSBANDRY 04.01.77-SU-439462
C03 (10.01.79) A23k-03/03

Sodium chloride is added to fodder in an amt. corresp. to satn. of the water contained in the compsn.

The antirotting action of the lower aliphatic acids is supplemented by the antifungal action of NaCl, so that mould growing is also suppressed.

The compsn. contains (in wt.%) formic acid 25-36, acetic acid 20-32, propionic acid 5-12, NaCl 10-15, and water 15-30.

Grigorev A.A., Miklina S.F. Vorobeva L.N., Bul. 1/
5.1.79 4.1.77 as 439462 (3pp70)

MCCO/ ★ D13 71536B/39 ★US 4167-899
Disposable unitary coffee maker - in which water when heated passes from lower section through coffee charge into top pour section
MCCORMICK J B 12.08.77-US-823955
P28 (18.09.79) A23f-01/08 A47j-31/05

A coffee maker has similarly shaped top and bottom container sections with annular flanges secured togehter fluidtightly. A pump element between the sections encloses a charge of coffee through which water in the bottom section passes when heated.

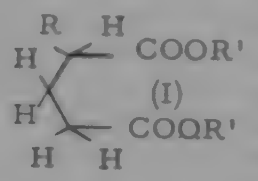
A fuse prevents water passing throug until it reache a set temp. The top section has a pour spout opening c ered by a pull tab, and there is a handle fixed at one si to the flanges. The set temp. is about 200°C and the b om section is externally frustoconical to seat in a heat There is pref. ground coffee within a nonwoven synthet carrier. 12.8.77 as 823955 (5pp1358)

DERC/ D13 43356A/24 =US 4168-
Lollipop manufacturing appts. - has vertical cutting punch deliver material into head already accommodating stick
DERCKX H A J M 25.11.76-NL-013131
*(18.09.79) *NL7613-131 A23g-03/12*

Confectionery lollipops are mfd. by appts. which has a cutter for cutting a strand of confectionery and deliverin the cut-portion into a stamp hole which is one of a number equally spaced around a cylindrical body, each hole contg. a stamp; and the body being indexable between th cutting position where the confectionery is pre-pressed, a pressing station where the stamps in the holes coopera with a external stamp to further press the confectionery and a discharge station. Sticks are inserted at the cutti position. 15.11.77 as 852002 (9pp1376)

ELPA ★ D13 71627B/39 ★US 4168-2
2-Hydroxy-2-cyclopentene-1-one synthesis from glutarate di:este by acyloin reaction with introduction of oxygen
EL PASO PROD CO 19.05.78-US-907730
E15 (18.09.79) C07c-45

In the acyloin condensation of a diester of formula (I) where R is H, Me or Et, R^1 is Me or Et, by adding the d ester to an alkali metal in an acyloin condensation solvent, substantial yield of the R substituted 2-hydroxy-cyclope -2-ene-1-one are obtd. by introducing oxygen into the reaction mixt. after ester addition is complete.

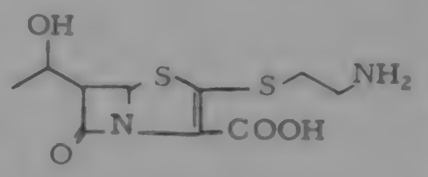


The prod. where R is Me is useful a a flavouring cpd. ("maple lactone"). 19.5.78 as 907730 (4pp955)

MERI D13 44337B/24 =US 4168-31
Pen-2-em-3-carboxylic acid and derivs. and 1 sulphoxide(s) - usef as broad spectrum antibacterials
MERCK & CO INC 17.11.77-US-852427
*B02 C02 E13 (D22) (18.09.79) *EP---2-210 +C07d-277/08*

6-(1'-Hydroxyethyl)-2-aminoethylthio-pen-2-en-3-carbox ylic acid of formula (I) and its salts are new:-

(I)



(I) is incorporated, as active ingredient, in antibiotic pharmaceutical compsns. in unit dosage form. (is pis. admixed with other antibacterial agents such as linomycin, a penicillin, str pomycin, norobiocin, etc. (I) is active against a broad range of patnogens including gram tve bacteria such as S. aureus, and gram negative bacteria such as E. coli. (I) can be incorporated in animal foodstuffs. 17.11.77 as 852427 (7pp936)

HAMA- ★ D13 71646B/39 ★US 4168-321
Tablet-shaped press-formed sweet - with spaced top concavities to receive mating punch carrying colourant
HAMADA FOODS CHEM I 27.04.77-JA-U54587
(18.09.79) A23g-03

Sweet has a powder material core with an upper surface having spaced concave lands. A lower punch forms the lower surface and holds the core in place and a printing punch has convex lands corresponding to the concave lands and positionable within them to transfer a colourant.

The height of the convex lands is pref. greater than that of the concave lands. 26.4.78 as 900136 (5pp1358)

MRSC D13 46108W/28 =US 4168-322
Feed products from whey protein - by thermal coagulation after neutralisation useful e.g. in synthetic meat prodn.
MARS LTD (PETO) 27.02.74-GB-008935
*C03 (18.09.79) *BE-825-709 A23c-21 A23j-03*

Protein food prod. compri ses firm coherent pieces [illegible] matrixe comprising heat-coagulated whey protein; the ieces comprises 40-80% of meat and/or meat by-prods. he food prod. consists of ⩽ 20% of other edible material hosen from fats, colourants, nutritional supplements nd thickness.

The meat prods. are embedded in and bonded together y the matrixe. The whey protein constitutes 15-60 wt.% f the prod. and is sepd. from whey under acidic conditons. It has a coagulation pH of 6-9 and thereby provides he firm coherent gel structure of the matrix.

The texture of kidney, sausage-type mixes etc. is improved, and the prods. are useful as food for animals nd humans. 17.8.77 as 825223 (+20.2.75-US-551314) (5pp997)

UENO D13 68929Y/39 =US 4168-323
Food additive powder contg. sugar or sugar alcohol and surfactant - opt. with oil or fat, easier to use than liq. surfactant prepns.
UENO SEIYAKO OYO 22.04.77-JA-045917 (01.06.76-JA-062930)
*(18.09.79) *BE-855-213 A23l-01/27*

An edible surfactant compsn. is dispersed in fish mince by preparing a crystallised colloidally solidified, hydrophilic powder of particle size ⩽ 20 mesh. The surfactant compsn. comprises 60-99% of dispersing medium, 30-0.5% of a food-grade surfactant and 30-0% of an edible oil or fat. The dispersing medium is a sugar alcohol, sugar and/or their mixts.

The compsn. is prepd. by adding the surfactant and edible oil or fat to the dispersing agent in a heated liq. state, to disperse the ingredients, the dispersion is then cooled and solidified to form a colloidal solid, which crystallises upon cooling. The colloidal solid is pulversied and added to fish mince in amts. sufficient to improve the whiteness of fish mince and to prevent the spoilage of fish mince during refrigeration.

The prod. can be used as the basis for a softener for bread, as a foamer for sponge cakes, or as an effective defoamer. 27.5.77 as 801320 (6pp931)

HAGG D13 90245Y/51 =US 4168-324
Coffee with reduced irritant content - by extn. of coffee wax with supercritical fluid, esp. carbon dioxide, while maintaining caffeine content
HAG AG 30.08.76-DT-639066
*(18.09.79) *DL-127-467 A23f-01/04*

Coffee is produced which is low in undesired stimulants normally produced during roasting, while retaining the original caffeine content.

The process comprises removing coffee wax from unroasted coffee beans by treating the beans with a solvent harmless to health, the solvent being a supercritical fluid. The coffee wax is then adsorbed using an adsorbent which is precharged with pure caffeine. Pref. a working pressure of 20-800 bar is used. The moisture content of the raw coffee is 20-35 wt.%. The solvent used in CO_2, to which is added an entrainer of raw or roasted coffee ingredients.

A coffee prod. is obtd. whose C-5-HT content can be diminished to < 200 ppm. The prod. is a roasted coffee whose appearance and taste are indistinguishable from the finest natural mild blends. 25.2.77 as 772365 (3pp931)

MEDI- ★ D13 71647B/39 ★US 4168-325
Pimento paste for stuffing olives - prepd. as a hardened strip from a homogenised, air-free aq. medium
MEDINA GARVEY ACEIT 26.05.76-ES-448251
(18.09.79) A23l-01/04

Pimiento paste is prepd. by forming an aq. medium contg. treated pimiento, pref. sterilised, natural, oven-peeled pimiento, Na alginate, guar gum and K sorbate, homogenzing it to give a gelatinous mixt., removing any air trapped in the mixt., spreading the obtd. uniform, semi-liq. paste on a conveyor belt for gradual thickening, submerging the belt in a $CaCl_2$ bath to ppte. all the alginic acid, and removing the separated, hardened paste from the belt.

Paste is useful for stuffing sevillian style olives. It has a uniform colour and texture and can be shaped into long strips which are the correct size for stuffing, so that the stuffing machines can show a high prodn. rate. 8.4.77 as 786053 (3pp558)

MRSC D13 90052Y/51 =US 4168-328
Stabilisation of protein foodstuff of high water content - using an acid-producing bacteria and a low pH level
MARS LTD 17.06.76-GB-025162
*C03 (18.09.79) *BE-855-758 A23b-04/12 A23l-03*

Microbiologically stable proteinaceous food prod. comprises pieces of edible protein selected from meat and textured vegetable protein in an aq. phase of pH < 4.5. The prods. has a moisture content of > 50 wt.%. It contains viable homoferimentative predominantly lactic acid-producing bacteria together with available fermentable carbohydrate to enhance its long term microbiological stability.

The food is for human and animal consumption, e.g. as brawns and meat-in-jelly or meat-in-gravy prods. 13.6.77 as 806315 (5pp997)

See Also

D15 DT 2910413
D15 J5 4104655
D16 DL 136424
D16 DL 136746
D16 DT 2907721
D16 IT 1032200
D16 SU 639935
D16 SU 639939
D16 SU 639940
D16 US 4168204
D16 US 4168262
D17 BE 876126

D14: FOODSTUFF MACHINERY

RIBE/ ★ D14 B/39 ★BR 7801-143
Product mixer for animal husbandry use
RIBEIRO M S F 23.02.78-BR-001143
J02 (11.09.79) B01f-09/06

USIF- D14 94679X/51 =DS 2624-517
Freeze drying chamber for food - has raisable shelves with end pins resting in vertical stepped slots of slidable of side walls
USIFROLD SOC UTIL SCI 03.06.75-FR-017218
*P25 +Q76 Q77 (20.09.79) *DT2624-517 A47b-57*

A cabinet for freeze drying under vacuum and similar operations has at least two shelves supported by pegs projecting from their end faces, which can be raised and lowered. Inside the cabinet and close to opposing side walls, there are support panels which can be moved through a limited distance. These have ⩾ 2 slots at each side for each shelf. The pegs are guided in these and can be supported at one of ⩾ 2 heights, the difference between which can be considerable. The means of adjusting the height of much simpler than in existing cabinets of this type.

The slots in the support panels run vertically and have ⩾ 2 separate zones of different width joined by a step which forms a support for the peg. The hydraulic or pneumatic lifting mechanism acts directly and immediately on the bottom shelf. 1.6.76 as 624517 (6pp1045).

GATI/ ★ D14 70308B/39 ★FR 2411-576
Steam peeling of fruit and vegetables esp. potatoes - with preheat and air purge to avoid oxidation, discoloration and peeling losses
GATINEAU J A G 15.12.77-FR-037885
(17.08.79) A23n-07/02

The vegetables are exposed to high pressure, live steam in a sealed, rotary autoclave. The steamed vegetables are released from the autoclave and transferred to a mechanical peeler using brushes and/or high pressure jets of cold water. The autoclave is non subjected to a preheating period during which it is also purged of air before sealing and introducing high pressure steam.

The preheating/purging is pref. achieved by passing int the open autoclave steam at a pressure slightly above atmospheric. This can be done before or after loading prod. into the autoclave. Alternatively, the preheat/purge can be by means of a short burst of high pressure steam into the autoclave. Purging may be assisted by vacuum suction to the open autoclave. Such vacuum pressure is pref. of the order of 2 mmHg. The autoclave pref. operates at about 170°C and a steam pressure of about 8 bars.

The combined purging and pre-heating ensures that not only is air removed from the autoclave but that the heat drives out gases from the prod. itself before the autoclave is sealed. This prevents oxidation, discolouration and rapid deterioration of the peeled prod.. Heat transfer is improved, peeling losses reduced for increased yield, prod. appearance enhanced and shelf life increased. 15.12.77 as 037885 (17pp448).

SEYV/ ★ D14 70309B/39 ★FR 2411-577
Solar heated chamber for drying fruits and roasting grain etc. - eliminates parabolic reflector with associated problems of wind resistance and shadow
SEYVE D 16.12.77-FR-038557
Q76 (17.08.79) A23n-09 F26b-03/28

The installation is of the type in which solar radiation is conc. ina zone which is insulated against heat loss. The installation is low-profiled, flat-topped and basically of rectangular cross-section. Solar radiation is received directly from above into a thermally insulated heating chamber. Flat lenses are pref. located above a small, glazed opening in the top of the heating chamber, forming a solar trap.

Each heating chamber pref. comprises a rotary cell with fresh air inlet and an outlet for exhausting fumes so that the glass of the solar trap is always clear.

Used e.g. for drying beans. Without a parabolic reflector, the installation is low-profiled and does not offer appreciable wind-resistance. Without reflector and supporting superstructure, the radiation is taken directly into the top of the chamber without shadow problems. 16.12.77 as 038557 (7pp448).

AKIR/ D14 23917Y/14 =GB 1553-502
Metering powders to pelletising machine - using rotating double arm fed from hopper running on smooth bed
AKIRA H 23.09.75-JA-115340
*J04 +P33 P71 Q34 R13 (26.09.79) *DT2643-196 +G01f-13*

A tablet making machine has a fixed horizontal bed; one or more hollow arms having dispersing nozzles at their outer end arranged horizontally over the upper surface of the bed, the nozzle sliding against the upper surface and the other arm end being fixed to a driven shaft; a hopper arranged above the shaft to supply powder to the arms; and a male die which cooperates with a female die or dies in the bed after filling with powder from the nozzle to produce a tablet.

Tablets from dried plants can be made without using a binder. 17.9.76 as 038574 (4pp1376)

POYS/ ★ D14 70359B/39 ★GB 2016-291
Mixer and dispenser for animal foodstuffs - with dispensing aperture adjustable to control relative amounts discharged and recirculated
POYSER G J 19.04.79-GB-013705 (25.02.78-GB-007583)
(26.09.79) B01f-15/02

An appts. for mixing and dispensing animal foodstuffs comprises a container adapted to be transported with its axis horizontal. The container has an opening along one side and a rotor mounted within it for rotation about a horizontal axis. The rotor discharges the contents through the side opening and onto the ground.

The size of the opening may be adjusted to control the rate of discharge and hence to control the extent of recirculation and consequent mixing of contents within the container.

The appts. is used to mix a balanced foodstuff for cattle, including e.g. silage, brewer's grain, sugar beet, corn, hay, straw, potatoes, carrots, etc. The ingredients are mixed uniformly. 19.4.79 as 013705 (8pp295)

RIJK- ★ D14 71080B/39 ★NL 7802-4
Rotating roller for feeding crushable stranded prod. from vibrati be - has raised pins sized to pick up prod. without physical damaging it
MACH C RIJKAART BV 06 03.78-NL-002448
(10.09.79) A23n-15

Fragile crushable prod., such as bean sprouts for an eg roll, are sepd. from their intertwined state on a vibratin bed and then fed in a vertical direction by means of a rot ting roller with protruding pins. The length of the pins is such that the prod. cannot be damaged by them but is also long enough to ensure that a feed occurs. The lengt of the pins pref. equals the dia. of the vegetable prod. an the same distance is used for the clearance between the pins and the end of the vibrating bed. The axis of the rol er is also pref. slightly above the conveying surface of th vibrating bed.

The pins on the roller enable the prod. to be drawn fr the vibrating bed at a controlled rate with a min. of damage. 6.3.78 as 002448 (9pp1370)

AAGR= ★ D14 71170B/39 ★SU -639-49
Mixer for agricultural fodder, etc. - has multistart worm with broke turns based on pitch size of worm turn helix
ARMN AGRIC MECHN 01.02.77-SU-448632
P12 (30.12.78) A01f-29 B01f-09/06

The mixer comprises a shell housing a worm with intermittent turns. In order to increase performance, the worm is made multistart with staggered breaks in the various turns corresp. in width to the pitch of the turn helix. The device is used for mixing animal fodder in agriculture.

Markaryan S.E., Minasyan A.B., Musaelyants G.G. et al, Bul. 48/30.12.78 1.2.77 as 448632 (2pp132)

PAPC/ ★ D14 71184B/39 ★SU -639-51
Controlled electro-plasmolysis of vegetable pulp in food industry by correcting the voltage of the alternating current through the mi according to its resistivity
PAPCHENKO A YA 22.04.74-SU-020103
(30.12.78) A23n-01

The Parent Patent Cert. No. 454892 describes automatic control of electroplasmolysis of vegetable material, mainly juice-pulp mix, by regulating the voltage of alternating current through the mix according to its flow-rate. For maximum processing of the mix, the voltage is corrected according to the resistivity of the mixt. This method is useful inthe foodstuffs industry. It has regard to a qualitative criterion as well as the quantitative index, e.g. for apples.

Papchenko A. Ya., Gaichuk V.T., Burinskii V.S., Bul. 48/30.12.78 22.4.74 as 020103 Add to 454892 (2pp840)

CONS= ★ D14 71423B/39 ★SU -640-731
Device for loading food cans into autoclave basket - feeds cans singly through port in shell over vertically movable base within basket
CONSUMER PRODS DES 21.02.77-SU-456184
(10.01.79) A23c-03/10

Appts. for loading the cans into the autoclave baskets has improved efficiency, comprises a loader, a lifter and a shell with a port for the passage of cans. The shell can move over a sliding guide and is secured to a rod for rotation about a vertical axis. The guide is defined by two curved walls located concentrically of the rod vertical axis.

Marder Z.M., Kruchan I.S., Kovtun V.P., Bul. 1/5.1.79 21.2.77 as 456184 (3pp1358)

VEGE= ★ D14 71424B/39 ★SU -640-732
Cucumber and melon seed separating sieve - has discharge end superposed interdigitated combs to trap remaining seeds and prevent loss
VEG GROWING MACH 13.07.77-SU-506697
(10.01.79) A23n-15

A sieve for machines sepg. seeds from fruit, particularly cucumbers and melons, comprises a mesh secured to a frame and with two combs at the discharge end, mounted one above the other so that the teeth are interdigitated. Curved plates are located in the gaps between the teeth, with one end of the plates rigidly secured to the frame.

arrangement reducing losses of seeds.

A pulp mass is fed to the sieve and is distributed by aking. Those seeds which do not pass through the mesh ach the combs where the teeth are sized to give a lar- r through cross-section than in the mesh. The stagg- ing of the teeth ensures that seeds do not jam, and the ates allow rind and pulp to ride up over the combs to event blockage.

gorov I.N., Zhukov M.A., Bul. 1/5.1.79 13.7.77 as 6697 (2pp1358)

ZVON- ★ D14 71522B/39 ★SW 7713-175

Food portions shaping appts. - with respective halves of mould formed by reciprocating piston and by reciprocating holder which carries shaped portions to discharge point

ZVONKO PESTELIC 22.11.77-SW-013175

(25.06.79) A23p-01

D15: WATER TREATMENT

TUH/ ★ D15 70023B/39 ★DL-136-425

ontinuous and simultaneous analysis of free ammonia and salts - waste waters and process waters, by measurement of pH and onductivity

STUHMER K H 05.05.78-DL-205194

J04 R16 (04.07.79) G01n-27/06

the simultaneous continuous determination of the salt nd free ammonia content of waste waters and process wa- ers, a combination of conductivity and pH measurements s made. The conductivity gives the concn. of ammonium nd other dissociated salts, and the free ammonia concn. in the range 0-10g/l) is obtained from the salt concn. hus determined and the pH value measured.

Used in, e.g. nitrogenous fertilizer plants, power sta- ions, microbiological plants, and water in steam-product- on plants. Simple and rapid procedure giving results of sufficient accuracy for e.g. monitoring of potentially in- urious concentrations. Results are obtained rapidly en- ough for countermeasures to be performed if undesirably high concentrations are detected. 5.5.78 as 205194 (8pp)

DINJ/ ★ D15 70059B/39 ★DL-136-574

Glass appts. for neutralising acid and basic waste - includes modified water jet pump and flask with discharge fitting contg. pH-measuring device

DINJUS E 22.05.78-DL-205489

(18.07.79) B01j-04

In an all-glass appts. for neutralising acidic and basic waste, a water jet pump, fitted with a male ground-in joint part, projects into a 3-neck flask fitted with a special bottom discharge. The neutralising agent or material to be neutralised is sucked through the water jet pump via a suction nozzle; measured out and diluted with water. Neutralising agent or material flows in through a drop-conduit, which can be evacuated and which is fitted with a ground-in joint.

The materials can be neutralised and diluted so that they can be discharged into a waste water system. The device can be used in laboratories, research institutions and small-scale plants. 22.5.78 as 205489 (7pp200)

DEAK ★ D15 70095B/39 ★DL-136-702

Ultrafiltration, reverse osmosis and dialysis membrane prodn. - by treating porous polymer substrate having grafted active polycation with polyanion

AKAD WISSENSCHAFT DDR 01.02.78-DL-203516

A88 J01 (25.07.79) B01d-13/04

Coating polymer surfaces for use as membranes for ultrafiltration, reverse osmosis or dialysis involves the application of a sepn-active impermeable layer to a porous polymer substrate by polymerisation of ionic monomers, e.g. alkyl-, aryl- and/or alkylaryl-ammonium, -phosphonium or -sulphonium cpds. with simultaneous grafting, in the presence of cross-linkers. The novel feature is that the active layer (of grafted polycation) is treated with an aq. soln. contg. natural and/or synthetic polyanions, pref. heparin, nucleic acids or acrylic acid derivs., for 1-200 hr. at 10-80°C.

The process is rational and does not affect the mechanical stability of the surface, which has predetermined properties. Asymmetrical membranes with high sepg. power and satisfactory blood compatibility can be produced. 1.2.78 as 203516 (9pp16)

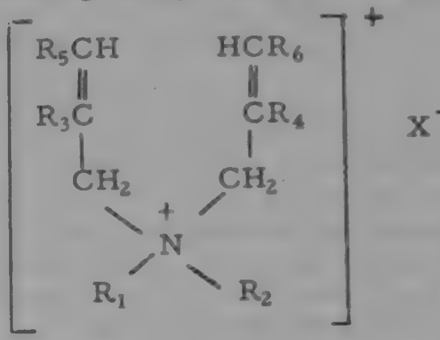
DEAK ★ D15 70096B/39 ★DL-136-703

Asymmetric membranes for ultrafiltration, reverse osmosis and dialysis - made by grafting ionic monomer on a porous substrate

AKAD WISSENSCHAFT DDR 01.02.78-DL-203517

A88 J01 (A14) (25.07.79) B01d-13/04

Polymeric membranes are made by grafting onto a porous polymeric carrier a non-porous separating layer formed by polymerisation of an aq. soln. contg. 20-60 wt.% ionic monomer of formula (I) in presence of 1-5 wt.% cross-linking component, pref. methylene bis-acrylamide.



(I)

In (I), R_{3-6} are H, alkyl or aryl; R_1 and R_2 are 1-18C alkyl, aryl or alkaryl; X^- is an inorganic anion, e.g. halide, nitrate, sulphate, phosphate, thiosulphate or oxalate. Used for ultrafiltration, reverse osmosis and dialysis. The membranes have improved mechanical stability and sepg. efficiency. 1.2.78 as 203517 (8pp)

KREI/ D15 17089S/10 =DS 1938-465

Water vaporiser with directed steam jet - discharge outlet

KREIBERG O A (KRE /) 31.07.68-DK-003694

*+Q74 (20.09.79) *CA-865-248 +F24f-03/14*

A vapouriser of the type used for humidifying occupied rooms, has an outer vessel and an inner vessel with a steam outlet, and a water feed pipe passing through the two, together with electrical connections and a heating element. The space between the inner and the outer vessel serves for heat insulation.

The lifetime of the apparatus, and in particular that of the metal fittings liable to corrosion, such as the heating element and the thermostat, is extended considerably by assembling the inner and the outer vessels inseparably and hermetically.

The heating element and the thermostat are installed in the space between the two vessels or in a separate partitioned chamber, which may be completely evacuated. The conductors go to a socket fitting which is sealed hermetically into the wall of the outer vessel. 29.7.69 as 938465 (4pp1045).

RENA D15 13018W/08 =DS 2435-038

Industrial effluent pretreatment - in three-section tank with heating zone to accelerate phase separation

REGIE NAT USINES RENAULT (CITR) 14.05.74-FR-016665

(27.07.73-FR-027690)

*(20.09.79) *DT2435-038 C02c-01/26*

The light phase, the heavy phase and the water in industrial effluents of the type containing soluble oils and synthetic chemicals for lubricating and cooling during the machining of metals, are separated much more quickly and efficiently.

The plant has a series of chambers in the first of which, close to the fluid inlet, there is a wall which distributes and smoothes out the flow, positioned a short distance in front of a thermal partitioning wall.

Between the two, a heating arrangement is located, so that, in the volume of fluid enclosed by the two walls, convection currents are set up which facilitate the separation of the phases. 20. 7. 74 as 435038 (7pp1045).

ENZU D15 25444Y/15 =DS 2544-198

Alkaline beverage container washing wastes - neutralised by immission of carbon dioxide in liquid phasre at automatically controlled rate

ENZINGER UNION WERK AG 03.10.75-DT-544198
*(20.09.79) *DT2544-198 C02c-05/02*

Alkaline effluents from bottle washing machines in the drinks industry, are neutralised without creating excessive acidity, by means of liquified carbon dioxide, in an arrangement which rules out the possibility of the feed valve becoming blocked by ice, without the expense of heaters.

The CO_2-pressure-detenting valve is submerged completely in the reaction container, and the flow of the liquid to be neutralised contacts it all over. The control mechanism for the valve or the electrical conductors are extended outside the container so that the detenting valve can be regulated remotely. 3. 10. 75 as 544198 (6pp1045).

KREI- D15 45974A/26 =DS 2656-886

Slurry dewatering and compression device - having eccentric auger pump parallel to diaphragm pump for initial press loading

KREISSPARKASSE RECK (SEEB-) 15.12.76-DT-656886
*(20.09.79) *DT2656-886 C02c-03*

An installation for densifying and dewatering, esp. sewage sludge, is arranged so that considerable economies of energy are possible, as compared with conventional plants using only a piston membrane pump.

Loading of the filter press can be continued and adapted to the progress of the dewatering and densifying operations without recycling. The plant includes in addition to a small capacity piston membrane pump an eccentric worm pump. Both of these are connected in parallel through non-return valves to the line feeding the filter press, and there is a control unit with at least one pressure gauge for regulating the speed of the eccentric worm pump motor.

As pressure increases, the speed of the eccentric pump is reduced progressively until it is cut out altogether and the piston membrane pump alone then completes the charge. 15. 12. 76 as 656886 (4pp1045).

KNAF ★ D15 70142B/39 ★DT 2810-173

Solidifying aq. sludge or pasty waste - e.g. oil, by adding calcium sulphate to form calcium sulphate di:hydrate

KNAUF WESTDEUT GIPS GMBH 09.03.78-DT-810173
L02 P35 (20.09.79) A62d-03 C02c-03 C04b-29

Solidified prods. of aq. sludges or pastes and setting agents contain $CaSO_4.2H_2O$. The prods. are produced by adding $CaSO_4$, pref. contg. less water of crystallisation than $CaSO_4.2H_2O$, to the aq. sludges or pastes.

Solidification allows the disposal of viscous, oily or pasty waste materials which are handled or transported with difficulty. Gypsum anhydrite, obtd. as wate prod., can be used to treat another waste prod. The solid formed resists storage and is free from soluble materials which could be washed out with water. 9. 3. 78 as 810173 (16pp200)

MITT- ★ D15 70144B/39 ★DT 2810-269

Water recovery from the atmosphere, esp. in desert climate - by solar collectors acting as adsorbers and two thermal reservoirs

MITTEX AG 09.03.78-DT-810269 (00.00.76-DT-660068)
J01 Q42 (20.09.79) E03b-03/28

An appts. for obtaining water from air uses the difference between day and night temps. with an adsorber and a cold store (cold sink).

In the addn., an array of blocks or panels of concrete or natural stone acts as a first heat storage (cold storage) system; air gaps between the blocks permit circulation of the air and solar collectors are mounted directly above the blocks; these solar collectors are also adsorber packets. A second heat store (cold store) pref. composed of blocks like the first, is so arranged that the heat which has been stored in the desorption phase during the day in the first store is removed during a cold blowing phase and at the start of the succeeding adsorption phase into the second heat store. During the succeeding desorption stage, this heat is then given up to the air supplied to the first adsor er packet.

Pref. the blocks are quartz-based sandstone, lime-based sandstone, calcium-magnesium stone, such as dol mite, marble, basalt, granite, slate or mica.

The second heat exchanger enables 20-50% of the are of the solar collector to be saved, or the water prodn. to be raised by 50%. 9. 3. 78 as 810269 Add to 2660068 (23pp236)

FARH ★ D15 70181B/39 ★DT 2811-1

Organic cpd. carbon determination in water - by measuring carbo di:oxide concn. after high temp. vaporisation with and witho oxygen addn. (BE 17.9.79)

HOECHST AG 15.03.78-DT-811135
J04 R16 (20.09.79) G01n-25 G01n-33/18

Quantitative determination of total organic cpd. C conten ('TOC') in water takes place by (a) vaporising the C-cont water at 900°C in the presence of O_2, provided the O_2 content does not exceed 1-5 vol. % w. r. t. water-vapour, and measuring CO_2 concn. (indicating total C, 'TC'); (b) vaporising the C-contg. water without O_2 at temp. cited i (a) and measuring CO_2 concn. (indicating total inorganic C, 'TAC'); and (c) determining 'TOC' from the CO_2 conc. in (a) and (b), according to equation TC-TAC=TOC.

Process allows the monitoring of hydrocarbons in waste water. Conditions of 'TC' and 'TAC' determinatio are identical. 15. 3. 78 as 811135 (7pp200)

MOLL/ ★ D15 70217B/39 ★DT 2811-80

Crude water treatment - in circular setting tank with flow decelerating partitions for tangential influent

MOLL H G 15.03.78-DT-811800
(20.09.79) C02b-01/20 C02c-01/26

In a treatment for raw water, specially surface water or other effluents, water is mixed with a flocculant and intro duced trangentially at the periphery into a tank. The circumferential velocity of the influent water is reduced by intermediate walls with perforations or deflector plates to a speed where upward secondary currents are suppressed Clear water is discharged through a central standpipe.

This system ensures optimum flow conditions at a mi imum of engineering effort. Specifically, a cylindrical tank is fitted with a cylindrical partition which is assembled from perforated sheets to form an annular gap. This partition ends short of the tank bottom to leave space for raking arms (not shown). An axial standpipe in the centre is open at the top and passes through the bottom to discharge the clarified water. 15. 3. 78 as 811800 (22pp39

CIBA ★ D15 70277B/39 ★DT 2909-758

Foam-destroying neutralising compsn. - contains solid (in)organi alkaline or acid reacting cpd. and minor proportion of silicone o and opt. silica

CIBA GEIGY AG 17.03.78-CH-002933
A97 F06 J01 (20.09.79) B01d-19/04

Foam-inhibiting neutralising compsn. contains (a) 90-99.995 pts. wt. solid inorganic or organic cpd. giving an alkaline or acid reaction in an aq. medium and (b) 0.005-10 pts. wt. silicone oil opt. mixed with SiO_2.

Compsn. contains esp. (a_1) 90-99.9 pts. wt. solid inorganic or organic base or its alkaline-reacting solid salts or (a_2) 90-99.9 pts. wt. solid inorganic or organic acids, its acid-reacting solid salts or acid anhydrides of organic acids and (b) 0.1-10 pts. wt. silicone oil and opt. SiO_2.

The compsns. are used for neutralising (i) spent photographic processing baths, esp. developing-, bleaching, fixing- or bleaching/fixing baths; (ii) waste waters, esp. contg. textile auxiliaries, e.g. dyes and/or tensides, mo partic. (1) neutralising alkaline, reducing waste waters from textile dyeings with vat dyes, by using an alkali or ammonium peroxomonosulphate as acid component, or (2 neutralising acid, oxidising textile-bleaching, waste wate using an alkali metal- or ammonium sulphite as basic component; and (iii) electroplating baths. 13. 3. 79 as [illegible]

ECOR- ★ D15 70279B/39 ★DT 2909-846

Flexible down pipe in biological sewage treatment plant - prevents flow reversal by collapsing

ECO-RESEARCH LTD 14.03.78-CA-298879

A88 (20.09.79) C02c-01/06

A biological sewage treatment plant is equipped with a shaft which is surmounted by a tank, divided into an inflow and an outflow section. The inflow section has a downpipe which extends to near the shaft bottom and is made of an elastomer material. The central co mpressed air pipe inside it assists the circulation and supplies the oxygen needs.

This elastic downpipe collapses if there should be any tendency for the flow to be reversed so that no valves are required and a reliable operation is ensured. 13.3.79 as 909846 (11pp39)

BRTI ★ D15 70282B/39 ★DT 2910-047

Stabilising aq. cationic flocculant soln. - by acidifying aq. soln. contg. no suspended solids, giving soln. used to clarify black liquor from titanium di:oxide pigment mfr.

TIOXIDE GROUP LTD 15.03.78-GB-010213

A91 G01 (20.09.79) C02c-05/02 D21c-11/04

An aq. soln. contg. 0.5-10, esp. <2.5 g/l cationic flocculant is stabilised by adding sufficient free acid to give a soln. pH of 1-5.5 (2.5-4.5). The soln. contains no suspended inorganic solids.

Black liquor, formed in TiO_2 mfr. by sulphate process, is clarified by mixing it with the above stabilised flocculant soln. to ppte. suspended inorganic particles.

The acidified, stabilised solns. retain their flocking activity even after 14 days storage at 20-24°C. The acid is esp. spent H_2SO_4, obtd. in the hydrolysis step for TiO_2 pigment prodn. The flocculant is pref. (co)polymer of an acrylic acpd. and contains $\geqslant 50$ mol% aminated acrylamide units. The polymer may be prepd. by modifying an acrylamide-contg. polymer with a sec. amine and HCHO 14.3.79 as 910047 (16pp200)

SUMO ★ D15 70294B/39 ★DT 2910-413

Acrylonitrile polymer semi-permeable membrane treatment - by immersion in inorganic salt and/or protonic acid soln. to increase water-permeability (NL 19.9.79)

SUMITOMO CHEMICAL KK 31.03.78-JA-038608 (17.03.78-JA-031571)

A88 J01 (A14 D13) (20.09.79) B01d-13/04 B01d-31

Semi-permeable membrane, based on acrylonitrile polymers, contg. 40-100 (70-95) mol% acrylonitrile and having blow-point > 0.1 (> 1) kg/cm^2, is immersed in an aq. soln of an inorganic salt and/or a protonic acid.

Membrane is used for ultrafiltration or reverse osmosis, e.g. in sea water desalination, e.g. to drinking water, in waste water treatment, fruit juice concn., sepn. of non-aq. fluids. Water-permeability of membrane is increased without impairing sepn. 16.3.79 as 910413 (21pp200)

SZIT/ ★ D15 70338B/39 ★FR 2412-171

Floating thermoelectric generator using solar heated thermocouples - used esp. for generating power to desalinate water for drinking

SZITA I 16.12.77-FR-037971

R46 (17.08.79) C02b-09 H01l-35

The hot junctions and cold junctions respectively are connected in series and/or parallel to positive and negative output terminals. The hot junctions are now fixed in the hot zone of a solar radiation trap employing an optical collector. The cold junctions are sealed in electric insulation and submerged inthe water of a river, lake, sea, etc.. The generator is mounted on a support floating on the water. The optical collector is pref. adjustable by pivoting about a horizontal axis and by angular reorientation around a vertical axis.

Drinking water can be produced by distillation or electrolytic desalination, either process employding electric power supplied by the generator. This is an inexpensive, reliable source of electricity. The generator actually floats on water which cools the cold junctions of the thermocouples and can be the water to be desalinated. 16.12.77 as 037971 (6pp448).

ITEM- D15 12356A/07 =GB 1553-335

Spray dryer for sludge from waste water - uses hot air to break up sludge into tiny particles for contact evapn.

ITEM SPA IMPIANTITE 14.10.76-IT-028329

*+Q76 (26.09.79) *BE-859-651 +F26b-03/08*

Sewage sludge is dried in a gas stream of sufficiently high temp. and flow rate to divide the sludge into particles from which water vapourises to dry the particles. Pref. the gas is air and the sludge has been stabilised.

Appts. for drying the sludge includes a duct into which hot gas and sludge can be introduced and a separator at the downstream end of the duct to separate the gas and the particles.

Drying is achieved quickly without a large capital expenditure. 14.10.77 as 042924 (6pp1376)

CARO D15 90974X/49 =GB 1553-364

Granular active carbon prepn. from black lignite granules - comprising leaching with aq. inorganic acid, pelletising and re-granulating (BE161176)

CARBORUNDUM CO 16.05.75-US-578061

*E36 J01 (26.09.79) *DT2621-530 C01b-31/10 +C10b-57/02*

Hard granular activated carbon is prepd. by forming granules from sub-bituminous coal; treating the granules with a dil. aq. soln. of inorganic acid, washing off the acid; and drying the mashed granules $\geqslant$partially to a moisture content of <25 wt.%.

The dried granules are opt. mixed with $\leqslant 15$ wt.% of a carbonaceous binder, then reduced to form a fine powder. The powder is compressed, and reduced to reform granules, which are devolatilised without charring by heating to a temp. above the charring temp. in an O_2-free atmos. The devolatilised granules are activated by heating above the devolatilising temp. in an atmos. contg. a gaseous activating agent.

The prod. formed is esp. used in waste water treatment. 6.5.76 as 018676 (12pp931)

NIIG D15 14994Y/09 =GB 1553-392

Aerobic compost fermentation from organic sludge - by traversing stirrer mechanism and top layer skimming conveyors in aeration tank

NIIGATA ENG KK (SEIB) 13.08.75-JA-098239

*(26.09.79) *DT2636-535 C05f-03 C05f-09/04*

Compost is mfd. from a mixture of previously fermented compost and organic waste slurry in appts. which has an open-topped vessel; and a feeding and stirring device to simultaneously introduce the slurry and stir it into the component. The device has a hollow shaft for feeding and a spiral member around the shaft for stirring. Aerobic fermentation is ensured by an air supply at the vessel base. Two conveyors, one to remove a predetermined thickness of compost from the top of the slurry mixture and one to further move the compost away from the vessel, are located at the top of the vessel.

Aerobic fermentation of 1 metre plus piles is possible. 12.8.76 as 033588 (11pp1376)

DENG- ★ D15 70358B/39 ★GB 2016-290

Biological waste water treatment appts. - comprise a centrifugal rotating disc assembly formed of disc pairs forming radial and circumferential channels

DENGYOSHA MACH WORK 14.03.78-JA-028867

(26.09.79) C02c-01/10

Assembly includes rotating dual discs vertically fixed to a main shaft. Each dual disc comprises a main plate, a parallel side plate and radial blades arranged to form a centrifugal impeller having at its centre a suction opening. Opposed suction openings are formed in the main and side plates of each sector box-shaped structure surrounded by the main and side plates to form a suction chamber.

Radial pleats are formed in the main and side plates extending outwardly from each suction chamber to form polygonal tubular channels to increase the surface area for microorganisms. There is $\geqslant 1$ communicating passageway formed in each of the main and side plates circumferentially traversing the tubular channels and blades. The rotating disc assembly is used in a biological treatment of waste water. A higher efficiency of aerobic treatment is achieved by improving the permeabilities and discharge of waste water. 5.3.79 as 007588 (13pp295)

SMHL ★ D15 70382B/39 ★GB 2016-437
Activated sludge effluent treatment appts. - has surface aerator circulating liquid through adjacent conical settler of reduced size
SIMON HARTLEY LTD 31.01.79-GB-003348 (17.03.78-GB-010628)
(26.09.79) C02c-01/10

The appts. comprises a vessel with a rotary surface aerator and a duct from the vessel head to the base of a settling tank with overflow to a collector. There is a second duct from tank base to vessel so that aeroator operation causes liquid to circulate through the ducts, leaving the vessel through the first and returning through the second duct.

The tank is pref. of inverted pyramidal shape, the first duct extending outwardly from the vessel and then downwardly centrally to the tank base. The arrangement reduces the size of settling tank required. 31.1.79 as 003348 (4pp1358)

GALV- ★ D15 B/39 ★IT 1032-192
Prefabricated biological purifier
GALVA SPA 20.03.74-IT-086250
Q42 (30.05.79) E03f

JAOR ★ D15 70432B/39 ★J5 4051-977
Preventing noxious ions leakage into treated water - in mixed bed ion exchanger, esp. sodium and chloride ions in deionisation appts. and thermal or atomic power plants
JAPAN ORGANO KK 03.10.77-JA-117846
J01 K06 (24.04.79) B01j-01/09

A cation-exchange resin and an anion-exchange resin are back-washed and sepd. in a regenerator of a mixed bed ion exchanger to regenerate both resins. The cation and anion-exchange resins are partially contaminated from the mutually opposite regenerants in the neighbourhood of the border line of the resins.

The greater part of the anion-exchange resin is then discharged from the regenerator to a tank to leave a small quantity of cation and anionexchange resins containing their contaminants. The small quantity of ion exchange resins contg. the contaminants parts are sepd. from the greater part of the cation exchange resin and discharged.

The noxious ions may be completely prevented from leaking into the treated water to stably and efficiently provide water of high purity. 3.10.77 as 117846(6pp35)

NITO ★ D15 70509B/39 ★J5 4103-780
Treating waste water from regeneration of anion exchange resin - by adding acid and subjecting to electrolytic treatment in bath with lead oxide plate anode and stainless steel cathode
NITTO BOSEKI KK 01.02.78-JA-010934
(15.08.79) B01j-01/09 C02c-05/12

Waste water from the regeneration of anion exchange resin used for the purification of natural water, is treated by (a) regulating its pH to 4-9 (5-7) by addn. of an acid, e.g. conc. H_2SO_4, and (b) subjecting to an electrolytic treatment in an electrolytic bath provided with a lead oxide plate as anode and a stainless steel plate as cathode and controlled at an electrolytic voltage of 4-10V.

COD components are efficiently removed and the treated water can be freely released into rivers without causing environmental pollution. 1.2.78 as 010934(3pp117)

TOKE ★ D15 70512B/39 ★J5 4103-783
Draining water from liq. tanks connected to common drain line - using flow rate detector and control valve
TOKYO SHIBAURA ELEC LTD 02.02.78-JA-010925
(15.08.79) B01j-04

Appts. for draining dirty water from several fluid tanks such as dirty water precipitating reservoirs or final sedimentation ponds connected to a common drain line connected to drain pumps for aeration in an aerator tank, includes a flow rate detector and control valve between each fluid tank and common line. The outputs of the detectors are connected to a selector for selecting a min. flow rate signal among the output signals of them. The output of the selector is connected to adjusting meters for determining the opening degrees of the control valves for flow rates equal to the lowest.

Water is simultaneously drained at equal flow rates from all the tanks. 2.2.78 as 010925(4pp26)

JAPG ★ D15 70515B/39 ★J5 4103-78
Liq. purificn. unit for blood dialysis, reverse osmosis, etc. comprises hollow fibre bundle housed in flattened tube wit elongated cross/section and radially expanded ends
NIPPON ZEON KK 01.02.78-JA-010176
J01 P34 (15.08.79) A61m-01/03 B01d-13 B01d-31 C02b-01/82

In a device for mass transfer through hollow fibres bundle and housed in a case, the fibre bundle is spaced from the casing so as to expose the wall of each fibre to a flow of liq. under treatment in the case. The case has a slightly flattened tubular shape having an elongated cross section and radially expanded at both ends. Expanded sections have a liq. feed and drain ports.

Used in blood dialysers for purifying the blood in an artificial kidneys, artifical lungs, and reverse osmotic desalters. The liq. flows over the entire area of the fibre bundle uniformly and the structure is such that liq. flows around the the bundle in the expanded section in one direction. 1.2.78 as 010176(7pp26)

SHMA ★ D15 70612B/39 ★J5 4104-378
Determination of hexavalent chromium in liq. - by adjusting t alkaline pH and irradiating with UV to determine light absorption
SHIMADZU SEISAKUSHO KK 02.02.78-JA-011153
E31 J04 R16 (16.08.79) G01n-21/02

Concn. of hexavalent Cr in a liq. is claimed where a liq. sample is adjusted with alkali to a pH of $\geqslant$10 and the resulting liq. is irradiated with UV-light having wavelength of 365 nm at its absorptive peak and thereby, the concn. of the hexavalent chrome ion is measured by its photo-absorptivity degree.

Process is able to measure most exactly the concn. of hexavalent chrome ion in an industrial waste water. At present, the concn. of hexavalent Cr in the waste water is strictly regulated to $\leqslant$ 0.5 ppm by Environmental Conservation Law. 2.2.78 as 011153(4pp15)

MITO ★ D15 70679B/39 ★J5 4104-638
Removing residual chlorine from cooling water - using system including ortho-toluidine hydrochloric acid salt detectors, chlorine neutraliser injector and resistor
MITSUBISHI HEAVY IND KK 02.02.78-JA-010739
E36 (17.08.79) C02b-01/23

Method for detecting and neutralising the residual Cl_2 in cooling water used in the heat exchangers of steam and atomic power stations as well as condensers, which cooling water is usualy injected with Cl_2 to prevent adhesion of marine organisms is described.

System comprises (a) 1st and 2nd Cl_2 detectors using a ortho-tolidine hydrochloric acid salt method, provided in the cooling water path, (b) a Cl_2 neutraliser-injector using Na thiosulphate or sodium sulphite provided between the Cl_2 detectors; and (c) a resistor provided between the 2nd Cl_2 detector and the Cl_2 neutraliser-injector.

The treated cooling water can be safely discharged without pollution problems. 2.2.78 as 010739(5pp117)

EBAI ★ D15 70680B/39 ★J5 4104-639
Treating sludge e.g. from sewage treatment - by dehydrating, melting, regulating ratio of slaked lime added to dry solids content and melting
EBARA INFILCO KK 01.02.78-JA-010291
(17.08.79) C02c-03

In the treatment of sludge discharged from the treatment of service water, sewage, industrial effluent, etc., in which sludge is dehydrated, and then melted by heating, the ratio of slaked lime added to the dry solid content (DS) of the dehydrated sludge cake is regulated to $Ca(OH)_2$/D.S. $\leqslant$ 0.25 by wt. pref. 0.05 $\leqslant$ $Ca(OH)_2$/D.S $\leqslant$0.25, and then the dry sludge cake is melted at 1200-1400°C.

High operational efficiency is achieved providing granular or blocked solid cake in which harmful substances, e.g. heavy metals, etc. are included so securely as to prevent their outflow. The solid cake is easily handleable and also can be reused. 1.2.78 as 010291(3pp117)

ITK ★ D15 70681B/39 ★ J5 4104-645

eating liq. from catalytic oxidn. of waste water - which contains ganic cpds., by vapour-liq. sepn., addn. of ammonia and strong kali and passing through heat exchanger

MITSUI TOATSU CHEM INC 02.02.78-JA-009879

E19 (17.08.79) C02c-05

reatment of liquor obtd. from the wet catalytic oxidn. of rganics-contg. waste water, e.g., discharged from nitile mfr. by ammoxidation, organic acid mfr. by gashase catalytic oxidn., esters mfr. alcohol mfr., night oil treatment plant, etc., in the presence of Cu and/or Cu cpd. and ammonia and/or an ammonium cpd. is claimed.

The liquor sepd. by vapour-liq. sepn. is first regulatd to pH 8.0-10.5 by the addn. of ammonia or a strong lkali, and then passed through a heat exchanger to reduce he temp. to the range from 60°C to ordinary temp. Process lengthens the life of the heat exchanger by completely emoving Cu, Cu cpd. and salts contained in the liquor. 2. 2. 78 as 009879(3pp117)

EBAI ★ D15 70682B/39 ★ J5 4104-647

Phosphate removal from liq. e.g. sewage - by adjusting calcium:phosphate ratio and passing through towers packed with phosphate mineral

EBARA INFILCO KK 01.02.78-JA-010292

(17.08.79) C02b-01/23 C02c-05/02

Phosphates present in liqs., e.g. service water, sewage, night soil treatment liquor, industrial effluents, boiler water, etc., are removed by passed the liq. through a tower packed with a phosphate mineral contg. calcium phosphate.

The liq. to be treated is first regulated to pH 3-6 to remove M-alkalinity components and then to pH 6-11 by addn. of calcium cpd. to give a Ca/PO_4 molar wt. ratio of 1.0 to 5.0, and then the liq. is passed through a first stage packed tower, of ≥2 packed towers, at a flow rate to keep the packings fluidised. The treated liq. is then passed through the second stage tower at a flow rate to keep the packings stationary, while part of the treated liq. from the first stage tower is recycled in an amt. of 1/2 to 5 times the amt. of liq. to be treated.

Method is capable of easily and exactly removing phosphates present in all types of liq. in the form of calcium hydroxyapatite on the surface of rock phosphate mineral. 1. 2. 78 as 010292(5pp117)

HITA ★ D15 70683B/39 ★ J5 4104-649

Removal of ammoniacal from waste water - where cationic exchange resin is regenerated with sodium ion-contg. liquor of specified pH

HITACHI KK 06.02.78-JA-011476

(17.08.79) C02b-01/76 C02c-05/08

Waste water is brought into contact with a cationic exchange resin layer; the ammoniacal nitrogen-adsorbed cationic exchange resin or zeolite is regenerated by supplying a Na ion-contg. regeneration liquor of pH ≥10, composed of NaOH, Na_2CO_3, and NaCl, and also by introducing a gas e.g., air into the cationic exchange resin layer.

Contact between the cationic exchange resin layer and the Na ion-contg. regenerating liquor is made rapidly but sufficiently, and also the amt. of residual ammoniacal nitrogen remaining in the cationic exchange resin and the regenerating liquor used is much less than that in conventional methods. Thus, the waste regenerating liquor can be safely released and also the cationic exchange resin used required no washing with water. 6. 2. 78 as 011476 (6pp117)

NIRA ★ D15 70684B/39 ★ J5 4104-651

Recovery of valuable prods. - from wastes of heavy oil combustion exhaust gas treatment process, includes chelate resin regenerating process

UNITIKA KK 03.02.78-JA-011817

A91 J01 M25 (17.08.79) C01g-31 C01g-53 C02c-05/02

Valuable prods. are recovered from the wastes discharged from the heavy oil combustion exhaust gas treatment process, e.g., dust collected by the dust collector. byprods. in the desulphurisation process, byprods. in denitrification process, etc. The process consist of a vanadium adsorption process, in which an aq. soln. of wastes subject to pretreatment, e.g., precipitation, filteration, etc., is regulated at pH 2-4, and then passed through an aminocarboxylic acid-type chelate resin with hydrogen terminal gp. and iminodiacetic acid functional gp.

A nickel adsorption process consists of regulating the treated water from the vanadium adsorption process at pH 6-9, and then passing it through the aminocarboxylic acid-type chelate resins used in the vanadium and nickel adsorption processes by using an acid soln., and a chelate resin regenerating process.

This method is capable of effective and maximum recovery of nickel, vanadium, other valuable salts from the wastes at lower cost. 3. 2. 78 as 011817(5pp117)

MEIP ★ D15 70685B/39 ★ J5 4104-655

Waste water treatment using activated sludge - after adjusting wt. ratio of carbohydrate(s) to protein and/or peptone cpds. and opt. adding nitrogen cpds.

MEIJI MILK PRODS KK 02.02.78-JA-009880

(D13) (17.08.79) C02c-01/06

In treating waste water contg. biological organic cpds., e.g., foods-mfg. waste water, including those discharged from milk prods. mfr. confectionary mfr., rice confectionary mfr., brewing etc., the wt. ratio of carbohydrate to protein and/or peptone present in waste water is first regulated to 0.2-5 by the addn. of a carbohydrate or protein on the basis of the analytical value of carbohydrate and protein and/or peptone opt. ≥25% an inorganic nitrogen cpd. and/or low mol. organic nitrogen cpd., e.g. ammonium sulphate, urea, etc., is then added;finally the water is subjected to activated sludge treatment.

Accumulation of high molecular cpds. in the activated sludge flocs is supressed thus preventing bulking and also improving the sedimentation and filterability of the excess sludge. 2. 2. 78 as 009880(5pp117)

DAUC ★ D15 70822B/39 ★ J5 4105-844

Decomposition of small amts. of free chlorine in water - by passing through or contacting with calcium sulphate(-based) pellets

DAIICHI SEIYAKU KK 06.02.78-JA-012179

A81 E36 (20.08.79) C02b-01/23

Small amts. in e.g. service water are decomposed by passing the water through or contacting it with Ca sulphite particles or a Ca sulphite-contg. pellet or tablet formed by using a base material (I).

(I) is e.g. ethylcellulose, 2-methyl-5-vinylpyridine-methylacrylate-methacrylic acid copolymer, diethylaminoethyl methacrylate, polyvinylacetaldiethylaminoacetate, dimethylaminoethylmethacrylate-methylmethacrylate copolymer, cellulose acetate N,N-di-n-butylhydroxypropyl ether, carboxymethyl(benzylamino)cellulose, shellac, cellulose acetate phthalate, etc.

Process can be effected on a large scale. In an example, the chlorine content of 0.085-0.169 ppm of water sample was lowered to 0-0.001 ppm by using 45 g of Ca sulphite. 6. 2. 78 as 012179 (3pp117)

HITF ★ D15 70823B/39 ★ J5 4105-846

Treatment of moisture-rich sludge and muddy water - by adding silicic acid sol and slaked lime soln. and stirring, to facilitate dewatering

HITACHI SHIPBLD ENGG KK 06.02.78-JA-012554

(20.08.79) B01j-01 C02c-03

The sludge is mixed with an acid silicic acid sol., prepd. by dissolving sodium silicate or potassium silicate in sulphuric acid, etc., to a sol. of pH 1-2, in a mixing tank equipped with ribbon screw conveyor and sent to the end portion of the mixing tank while being sufficiently mixed, and then the sludge so treated with the acid silicic acid sol. is further mixed with a slaked lime soln. of pH 11-11.6, prepd. by dissolving 10% slaked lime in fresh water, with slow tempo-stirring by screw conveyer to exhaust the gelled sludge to the outside.

This method is capable of treating the moisture-rich sludges or muddy water to highly dehydrated state or an easy-to-dehydrate state which makes its post-treatment easier and faster, i.e.. the transportation and dumping of the sludge are made easier. This treatment can be performed by using small amts. of lime, and the gelled sludge is applicable not only to land fill but also to the breeding of vegetables. 6. 2. 78 as 012554 (2pp117)

IKIS/ ★ D15 70824B/39 ★ J5 4105-848

Fine coal powder oxidn. bed for waste water treatment - used for removing suspended solids, hexane extracts, BOD and COD components, nitrogen cpds., etc.

IKI S 06.02.78-JA-011507

(20.08.79) C02c-05

Waste water suspended with fine coal powder as oxygen carrier is dropped in an atomised state or a thin film state, during which BOD and COD components are oxidised by the atmospheric oxygen and N-hexane extracts and fine suspended solids are adsorbed onto the fine coal powder.

Method effectively removes suspended solids, N-hexane extracts, water-soluble BOD and COD components, inorganic nitrogen cpds., etc. concurrently without any trouble at lower running cost. When the treated waste water is put in a sedimentation basin, cake contg. fine coal powder is rapidly pptd. to give highly purified supernatant liquor. When the cake generated is treated by a dehydrator, dehydration can easily be attained to an extent less than moisture content of cake obtd. 6.2.78 as 011507 (2pp)

SEKI/ ★ D15 70825B/39 ★ J5 4105-849

Treatment of high COD waste water - by mixing with fine coal powder, carbon and an acid, electrolytically treating, then adding coagulant

SEKI T 06.02.78-JA-011514

A91 (20.08.79) C02c-05

Treating high-COD waste water, e.g., those discharged from chemical-mfg. factories, asphalt-refining, plating, dye-mfg., dyeing, paper-making pulp mill, food processing, waste incinerators, petrochemicals, etc., is claimed. High-COD waste water is mixed with 0.1-5 wt.% fine coal powder of grain size $\geqslant$85 wt.% 9-500 mesh, 0.05-0 wt.% fine carbon, and an acid e.g., H_2SO_4, HCl, etc., for regulating pH value to 2-4. The mixt. is then electrolytically treated in the presence of an electrolyte e.g., NaCl, $NaSO_4$, etc., and then neutralised as required. The mixt. is then treated with a coagulant, e.g., polyacrylic acid, polymethacrylic acid, CMC, etc. to sediment COD flocs which are in turn sepd.

Method is capable of effectively and rapidly treating high-COD waste water, providing a practically COD-free clean treated water and a low moisture content of flocs cake which can be easily burned. 6.2.78 as 011514 (5pp)

BASE/ ★ D15 70826B/39 ★ J5 4105-851

Biologically treating sewage, industrial effluents, etc. - by plunging water-permeable container contg. granular adsorbent and e.g. foamed phenol resin into the waste water

BASE N 07.02.78-JA-012689

A97 (20.08.79) C02c-05/02

Sewage, industrial effluent, etc., contg. harmful substances, e.g. heavy metals, N cpds., phosphates, etc., is treated by immersing a water-permeable container, e.g., unwoven or woven fabric bag-like container of synthetic fibre (e.g. polypropylene) or other anti-corrosive material, into which a granular adsorbent, e.g. activated carbon, ion exchange resin, chelate resin, Ca silicate, powdered shell, zeolite, coal, activated alumina, Mg aluminate, porous synthetic resin, etc., is housed with a floater, e.g. foamed phenol resin, foamed silica, ping-pong ball, etc., into the waste water.

Impurities can be removed both in trace and in great amts. Recovery and regeneration of adsorbents is facilitated. 7.2.78 as 101689 (4pp117)

NITL ★ D15 70827B/39 ★ J5 4105-852

Sepn. of foods, drugs etc. from soln. - in multistage separator where fungicide is added periodically to the soln. between each stage

NITTO ELECTRIC IND KK 07.02.78-JA-013176

(20.08.79) C02b-01/82 C02c-05/02

Liquor and/or conc. liquor sepd. by a soln. separator of multi-stage separators is supplied to the next separator or recycled to the same separator, during which a fungicide, e.g., formalin, sodium hypochlorite, chlorine, iodine, a cationic surfactant, an amphoteric surfactant, hydrogen peroxide, sorbic acid, dehydroacetic acid, beta-propiolactone, boric acid, salcylic acid, benzoic acid, peracetic acid, etc., is added periodically to each soln. flow path between multi-stage separators.

The method is capable of keeping the fungicide concn of soln. almost constant at each stage, thus permitting the growth of microorganisms and the lowering of desal nation and water permeation rates due to the attack of microorganisms to be suppressed effectively. Method i useful for the purificn. and sepn. of foods, drugs, fermented prods., etc., or for reverse osmosis sepn., ultrafiltration, micro-filtration, etc., in sewage tertiary t eatment, building waste water treatment, oil-contg. wa te water treatment, etc. 7.2.78 as 013176 (3pp117)

TOYE ★ D15 70828B/39 ★ J5 4105-8

Treating odorous waste water with activated sludge - used partic treating water contg. reductive sulphur cpds. discharged from pu mill

TOYO PULP KK 07.02.78-JA-011981

F09 (20.08.79) C02c-01/06

High temp. odorous waste water contg. reductive sulphu cpds. is first cooled to 15-35°C by a heat exchanger anc also to pH 9-11. The waste water is introduced into a cl osed type aeration tank and treated biologically using an activated sludge bacteria subjected to an adaption treatn ent. The activated sludge bacteria is adapted under conc tions $\leqslant$ 30 ppm (per sulphur) early odorous substance c ncn., a $\leqslant$ 5 g/MLSS.D (per sulphur) load against sludge and a $\leqslant$ 10% load increment per day, and also by blowin a gas contg. $\geqslant$ 85% O into the aeration tank.

This method is capable of completely decomposing B components present in kraft pulp mill waste water in a c -sed system without vapour-liq. sepn. and of completely deodorising odorous substances contg. reductive sulphur cpds. without releasing them to outside. 7.2.78 as 0119 (8pp117)

MITO ★ D15 70860B/39 ★ J5 4106-0

Waste water treatment, from lime-gypsum process desulphurisi appts. - includes cooling waste gas contg. sulphur di:oxid contacting with slurry contg. calcium carbonate or hydroxide a oxidising

MITSUBISHI HEAVY IND KK 08.02.78-JA-012318

E36 J01 (20.08.79) B01d-53/34 C02c-05/02

A waste gas contg. SO_2 is cooled in a cooling tower, then contacted with an adsorbing slurry contg. $Ca(OH)_2$ or Ca CO_3 in an absorbing tower to remove SO_2 from the gas a to obtain a slurry contg. $CaCO_3$. The slurry is oxidised with air in an oxidising tower to obtain a slurry of CaSO which is then filtered to obtain gypsum and a filtrate.

One portion of the filtrate is recycled through a tank the absorbing tower, and Na_2CO_3 is added to the other p -ion in another tank, to obtain a softened soln. The soft -ed soln. is recycled through a filter to the cooling towe The addition of Na_2CO_3 is adjusted so as to be 0.6-0.9 equivalent to $CaSO_4$ of the filtrate. The $CaCO_3$ crystallis in the filter is sepd. and added to the slurry of $CaSO_4$ in further tank. The amt. of the softened soln. recycled to tower is $<$10 times more than that of a soln. removed from the tower. 8.2.78 as 012318 (6pp51)

TOYM ★ D15 70864B/39 ★ J5 4106-0

Fermentation of organic waste, e.g. faeces, garbage - in fermentation tank with partition wall and endless rotary agitatir scoop mounted on a reciprocating car

TOYOBO KK 07.02.78-JA-013270

(D16) (20.08.79) B01j-01

A partition wall is stood in a fermenting tank to form a path of uniform width going round the tank. A movable horizontal frame is bridged between the outer wall of the fermenting tank and the partition wall, and a reciprocati traverse car is put on the horizontal frame.

An endless rotary agitating scoop is attached to the traverse car to be inclined in the moving direction of the horizontal frame. While the agitating scoop is reciproca ed between the outer wall and the partition, it is gone round in the fermenting tank.

The operation of agitating scoop may be simplified to omit wasteful time for returning the scoop from a raw material supply inlet to a product exhaust outlet. Organi wastes such as livestock faeces, sludges, garbages and like may be fermented to mfr. a compost of low water c -tent. 7.2.78 as 013270 (5pp35

NOMU- ★ D15 70869B/39 ★ J5 4106-079
Vater filtering appts. using macromolecular membrane filter - has a vater cooler and closed water circuit for controlling microbes etc.
NOMURA MICRO SCIENC 08.02.78-JA-012302
J01 (20.08.79) B01d-13 C02b-03/02

The water filtering appts. comprises a raw water supply pump, a prefilter, a membrane filter, pipes for connecting the supply pump, the prefilter and the membrane filter a permeated water transfer pipe, and a concentrated water transfer pipe.

Respective branch pipes of the transfer pipes are connected to a water cooler and also connected through a circulating pump to the connect pipe so as to form a closed water circuit. When the drive or filtering operation of the appts. is stopped, the water is circulated in the closed water circuit. Then, the water cooler is regulated to a water temp. of 5-15°C to restrain the increase of microbes effectively.

The life of macromolecular membrane may be considerably lengthened, and the increase of microbes may be easily and automatically prevented without requirement of germicide and cleaning, so that a great quantity of water and drive time may be saved. The system may be widely used in the water treatment in electronic industries, medicine mfr. and food industries. 8. 2. 78 as 012302 (3pp35)

ASAG ★ D15 70883B/39 ★ J5 4106-097
Treating zinc sulphate-contg. tail soln. from zinc electrolysis - using dialysis to recover sulphuric acid which is recycled to the zinc prodn.
ASAHI GLASS KK (AKIT) 07.02.78-JA-011951
E32 M28 (20.08.79) C01b-17/90 C02c-01/16 C02c-05/02

The process recovers sulphuric acid from the tail soln. at low cost, to lower the prodn. cost of the zinc electrolysis

In an example, electrolysis tail soln. (153 g/l H_2SO_4, 53 g/l Zn, 15 g/l Mg, 2 g/l Mn and traces of Fe, Cd and Na) was dialysed through an anion-exchange membrane (strongly basic styrene-divinylbenzene). From the recovery side 126 g/l H_2SO_4 and 0.8 g/l Zn soln. was steadily obtd. 7. 2. 78 as 011951 (5pp96)

EBAI D15 13416Y/08 = J7 9025-749
Removal of phosphate from waste water - by contact with calcium phosphate rock at pH greater than 6
EBARA INFILCO KK (EBAR) 07.12.73-JA-136088
*J01 (30.08.79) *J50088-851 +B01d-15 C02b-01/23 C02c-05/02*

The phosphate-removal efficiency of the rock is much greater than that of active carbon. To a waste water contg. orthophosphate 10 ppm was added Florida phosphate rock powder (200-300 mesh) to a final concn. of 4000 ppm. The mixt. was stirred at 120 rpm and 25° for 2 hrs. and filtered.

The filtrate thus obtd. contained 0.1 mg/l. phosphoric acid; compared with 2.42 mg/l., when the waste water was treated with equal concn. of active carbon. 7. 12. 73 as 136088 C02b-1/23; B01d-15/00; C02c-5/02 (30. 8. 79) EBARA-INFILCO KK (5pp) (J50088851)

HASH/ ★ D15 71010B/39 ★ J7 9025-751
Activated sludge process control - involves measuring BOD and COD removal and microorganism growth etc., to determine mean residence time
HASHIMOTO S 15.07.74-JA-081580
(30.08.79) C02c-01/06

Mean retention time (ts) of activated sludge microorganisms in an aeration vessel corresp. to BOD or COD (le) of outflowed treated water is controlled by measuring rapidly and simply parameters of formula (I) for controlling the dynamics of the activated sludge process:

$$\frac{1}{ts} = Y \cdot \frac{K \cdot le}{Km + le} - b, \quad \text{(I)}$$

where Y is the prolificated amt. (Kg) of microorganisms per kg of removed BOD or COD material; b is the self-decomposing coefft. of the activated sludge (1/day), Km is the satn. constant (ppm), and K is the removal rate (1/day) of max. BOD or COD per unit amt. of activated sludge (1/day), Km is the satn. constant (ppm) and K is the removal rate (1/day) of max. BOD or COD per unit amt. of activated sludge. 15. 7. 74 as 081580 C02c-1/06 (30. 8. 79) HASIMOTO, S., FUJITA, T. (15pp34) (J51010661)

KOKC D15 19171Y/11 = J7 9025-910
Fuming nitric acid compsn. for toxic metals recovery - from effluents contg. initial phenolic condensate and water soluble polymer
KOKOKU CHEM IND KK 29.07.75-JA-092415
*A97 J01 (A21) (31.08.79) *J52015-486 B01d-15 C09k-03*

Mixt. (A) is kneaded, moulded, dried, and heated, it is then immersed and treated in aq. acid soln. (A) comprises 100 wt. pts. fuming nitric acid, 1-50 pts. wt. phenolic initial condensate, and 1-50 wt. pts. of water soluble polymeric compound.

The mixt. is used as a binder for use in the reocvery of toxic metals. It is insoluble in neutralised or weakly alkaline effluents. 29. 7. 75 as 092415 C09k-3/00; B01d-15/00 (31. 8. 79) KOKOKU CHEM IND. KK (4pp) (J52015486)

HASH/ ★ D15 71019B/39 ★ J7 9026-104
Advanced treatment of sewage - involves biological nitrification using oxygen and activated sludge, biological denitrification and adding nutrients to regenerate sludge
HASHIMOTO S 18.02.75-JA-020625
(01.09.79) C02c-01/06

Sewage is subjected to advanced treatment by (1) aerating it in admixture with highly conc. activated sludge in the presence of 0.5-7 ppm dissolved oxygen to convert, by biological nitrification, organic N into NO_3-N; (2) agitating slowly the water thus treated while maintaining dissolved oxygen concn. at < 0.5 ppm to convert by biological denitrification the NO_3-N into N_2; (3) diluting the obtd. mixt. followed by adding nutrient source composed of carbon and nitrogen components to regenerate activity of the activated sludge and to improve coagulatability of sludge. 18. 2. 75 as 020625 C02c-1/06 (1. 9. 79) HASHIMOTO, S., FURUKAWA, K. (20pp34) (J51094664)

MORG D15 84178X/45 = J7 9026-105
Waste water treatment - using corn steep liquor and fish byprods. as seed sludge nutrients
MORINAGA MILK KK 18.03.75-JA-031816
*(D12 D17) (01.09.79) *J51107-665 C02c-01/06*

In a purifying treatment of a waste water according to an activated sludge process, the improvement comprises adding to the mixt. of the corn steep liquor and the fish lever together with the seed sludge, and aerating so as to accelerate formation of an activated sludge, a wt. ratio of solids between the corn steep liquor and the fish lever being 1:1 to 6:1.

Sludge is formed in a very short time, so it is possible to rapidly operate a waste water-treating appts. at full capacity. The process is economical since the corn steep liquor and the fish lever are obtd. easily. 18. 3. 75 as 031816 C02c-1/06 (1. 9. 79) MORINAGA MILK KK (8pp) (J51107665)

SUMG D15 91475X/49 = J7 9026-106
Excrement treatment and ammonia recovery - by anaerobic digestion, steam treatment and activated sludge stage
SUMITOMO JUKIKAI KO 14.04.75-JA-044253
*(01.09.79) *J51120-049 C02c-01/06*

Excrement is anaerobically digested, the liquor obtd. is treated with steam to recover NH_3, and to simultaneously coagulate part of the proteinaceous pollutant material, then subjected to activated sludge process.

Resultant BOD of treatment water is < 10 mg/l and $> 90\%$ of NH_3 is recovered. Operating costs are reduced by 30-50% compared to conventional methods, e.g. biologically dentrifying using a zeolite. 14. 4. 75 as 044253 C02c-1/06 (1. 9. 79) SUMITOMO JUKIKAI KO INC. (3pp) (J51120049)

TSUH ★ D15 71020B/39 ★ J7 9026-107
Treatment of high concn. organic waste water - involves adding activated charcoal to sepd. liquor followed by aeration to form ppte. and supernatant
TSUKISHIMA KIKAI KK 21.04.75-JA-047423
(01.09.79) C02c-01/06 C02c-03

In treating the waste water with activated sludge under aerobic conditions, then heating discharged settled sludge to separate it into dewatered solid and heat-treated sepd. liquor, and recycling the sepd. liquor to the crude waste water, the improvement comprises (i) adding activated charcoal to the sepd. liquor followed by aeration to separate it into ppte. and supernatant liquor, (ii) adding coagulant to the supernatant liquor to separate it into coagulated sludge and treated water, prior to the recirculation and (iii) recycling the treated water to the crude waste water, so that the heat-treated sepd. liquor is economically and effectively treated. 21. 4. 75 as 047423 C02c-1/06; 3/00 (1. 9. 79) TSUKISHIMA KIKAI KK (4pp34) (J51122945)

IDEK D15 04860Y/03 = J7 9026-108

Waste water treatment by activated sluge process - using sea water in the place of a cohesive agent

IDEMITSU KOSAN KK 30.05.75-JA-064119
*H05 (01.09.79) *J51140-364 C02c-01/06*

In the treatment waste water according to an activated sludge process, the improvement comprises adding continuously sea water in such an amt. that the total salt concn. of the waste water does not exceed a predetermined value followed by stopping or decreasing the supply of the sea water when BOD removability initiates to lower; initiating or increasing the supply of the sea water when the total salt concn. becomes less than $\frac{1}{2}$ of the predetermined value

There is no lowering in treating effect due to the fact that the supply of the sea water is controlled. The process is suitably applied in a treatment of a city sewage and a petroleum refining waste water. 30. 5. 75 as 064119 C02c-1/06 (1. 9. 79) IDEMITSU KOSAN (3pp34) (J51140364)

MITU D15 22452Y/13 = J7 9026-112

Batchwise treatment of waste water - in a single activated sludge aeration basin

MITSUBISHI CHEM IND KK 05.08.75-JA-095300
*(01.09.79) *J52019-465 C02c-01/06*

Waste water contg. BOD and ammoniacal nitrogen at high level, such as livestock farm drainage is aerated for 6 to 18 hrs. in an activated sludge aeration basin; the water is then allowed to stand 4 to 16 hrs. stationary or with slow agitation; the first step is repeated for 10 to 120 min; and the water is allowed to stand 30 to 120 min.

Since the treatment is carried out batchwise in a single basin, each step can be operated until desired degree of treatment is reached; the process can be controlled so as to treat a constant quantity of waste water in a constant time cycle. 5. 8. 75 as 095300 C02c-1/06 (1. 9. 79) MITSUBISHI CHEM. IND. KK (6pp) (J52019465)

SHMC ★ D15 71021B/39 ★ J7 9026-115

Polluted water treatment to remove nitrogen and BOD components - using prim. and sec. systems each including reaction and settling vessels, with additional vessel in prim. system

SHIMIZU CONSTRUCTION 03.09.75-JA-106767
(01.09.79) C02c-01/06

In treating polluted waters to remove nitrogen and BOD components by an activated sludge process, primary and secondary systems are provided, each of which comprises in succession reaction vessels and settling vessels from which settled sludge is recirculated to the reaction vessels The treated water is discharged from the settling vessel in the secondary system.

The improvement comprising providing a third reaction vesselin the prim. system, removing the greater part of BOD components contained in the polluted water through the initial system including the third reaction vessel, and removing the remaining portion of the BOD components and effecting the nitrification reaction in the reaction and settling vessels in the secondary system. Thus nitrogen components and BOD components are removed economically within very short period. 3. 9. 75 as 106767 C02c-1/06 (1. 9. 79) SHIMIZU CONSTRUCTION (7pp34) (J52031565)

KYOX D15 78032Y/44 = J7 9026-198

Cyanide determn. in waste waters contg. oxidising agents - by a cyanide electrode method with a water soluble stannous salt, which reduces the oxidising agent and prevents reaction with cyanide

KYOWA GAS CHEM IND 25.03.74-JA-033688
*E37 R16 (03.09.79) *J50126-493 +G01n-27/46 G01n-31 G01n-33/18*

In an example, 100 ml of 12 ppm NaOCl was adjusted to pH 4 with 1, H_2SO_4 and 1 ml. of 50 ppm KCN was added. The mixt. was conc. to 70 ml by distillation. The conc. was adjusted to pH 12, diluted to a total vol. of 100 ml, and to this was added 17 ml of 1% $SnSO_4$.

The result of the determn. indicated 0.52 ppm NaCN an analytical error of 4%. When the same sample was determined in the absence of $SnSO_4$, $<$ 0.1 ppm NaCN was indicated. 25. 3. 74 as 033688 G01n-27/46; 31/00; 33/18 (3. 9. 79) KYOWA GAS CHEM. IND. (2pp) (J50126493)

NISH- D15 09121A/05 = J7 9026-228

Treatment of waste contg. hexavalent chromium - by passing water through a packed bed of coal powder spread with chromium cpd. and solid reductant

NISHIMATSU KENSET 11.06.76-JA-067736
*E31 J01 M14 P35 (03.09.79) *J52150-783 B01j-01*

Waste (I) contg. hexavalent Cr (II) is treated by passing water (III) through the packed bed of coal powder (IV), in the upper surface or bottom of which (I) and solid reductant (V) are spread ppt. mixed together. (II) is reduced and adsorbed to (IV).

Pref. (III), is rain, subterranean water artificially spraying water. Examples of (V) are $FeSO_4$, Na_2SO_3, $NaHSO_2$, and Fe. (IV) pref. contains grains of particle dia. $>$ 3 mm because (III) can pass easily through the packed bed of this (IV). (IV), which can absorb more than 1 mg of Cr per g of (IV) is pref. used. (I) contg. Hg or other heavy metals can be treated. The amt. of (V) should be sufficient for redn. of (II) to (I). 11. 6. 76 as 067736 B01j-1/00 (3. 9. 79) NISHIMATSU KENSET (4pp) (J52150783)

KOKC D15 71342Y/40 = J7 9026-234

Nitrohumic acid type sequestering agent prepn. - by drying and heat treating mixture of nitrohumic acid and aldehyde

KOKOKU CHEM IND KK 20.02.76-JA-017561
*A91 J01 (03.09.79) *J52100-384 B01d-15 C09k-03*

Insol. nitrohumic type acid sequestering agent for heavy metals is prepd. by mixing, drying and heat-treating a mixt. consisting of 100 pts. wt. nitrohumic acid, and 1-50 pts. wt. aldehydes.

Pref. aldehyde is formaldehyde or acetaldehyde and pref. temp. is ca 80-250°C, more pref. 130-170°C. Although heat-treated prod. is insol., such insolubility is enhanced by treating heat-treated prod. in an aq. acidic soln. of pH 4 (e. g. aq. HCl or aq. H_2SO_4). Aq. soln. of salts of alkaline earth metals may be effectively used in place of aq. acidic soln. or after the treatment in aq. acidic soln. Pref. alkaline earth metal salts are $MgCl_2$, $CaCl_2$, $Ca(OAc)_2$, etc.

The addn. of water-soluble high polymer such as polyvinyl alcohol, polyvinyl pyrrolidone, polyacrylamide to the mixt. of nitrohumic acid and aldehyde to obtain pellet-like product is effective. Prods. have improved strength. 20. 2. 76 as 017561 C09k-3/00; B01d-15/00 (3. 9. 79) KOKOKU CHEM. IND. KK (4pp) (J52100384)

HIEJ D15 20730A/11 = J7 9026-242

Heat-decomposing carbohydrate subsistence waste - including dry distilling in presence of chlorine contg. waste e.g. PVC and metal cpds.

HITACHI PLANT ENG CONST 23.07.76-JA-087889
*A35 J09 (03.09.79) *J53012-773 C10b-53*

Process comprises (a) obtaining a decomposed gas, a tar-like component and an active carbide by dry-distilling mixed waste of waste contg. chlorine such as PVC etc. and $\geqslant$ 1 metal cpds. selected from Ca, Mg, Fe, Zn to carbohydrate subsistence wastes, at $>$500°C; (b) obtaining a condensate by cooling the decomposed gas obtd., (c) adsorbing COD components in the liq. and removing by contacting the condensate with the active carbide.

Invention distils subsistence wastes, at the same time obtains the active carbide, and can remove the organic components in the condensate of the dry-distilled gas by the active carbide. 23. 7. 76 as 087889 C10b-53/00 (3. 9. 79) HITACHI PLANT ENG. CONST. (5pp)(J53012773)

DOWC D15 64552R/36 ≠J7 9026-514

In-service cleaning of cooling water systems

DOW CHEMICAL CO 29.04.68-US-725154 (09.06.70-JA-049210)
*J08 M12 +P43 (04.09.79) *US3527-609 C23g-01/08 +B08b-09/02*

In a process for continuously purifying a cooling water system alkali metal salt (or ammonium salt) of amino-polycarboxylic acid is added to the cooling water system contg. solid impurities and its pH is adjusted to 7-12. Secondly, a mixt. of the alkali metal salt (or ammonium salt) of amino-polycarboxylic acid an an oxidant is added in the resulting cooling water system contg. the solid impurities and thereby, a complex material of the solid impurities is produced and sepd. from it. The cooling water system contg. the amino-polycarboxylic acid and having a pH 3-6 is recirculated.

The process is used for removing iron oxide and hard sediment from the cooling water system of an industrial plant. 9. 6. 70 as 049210 B08b-9/02; C23g-1/08 (4. 9. 79)
DOW CHEMICAL CO. (5pp15)

HEAT= ★ D15 71154B/39 ★SU-638-880
Device for softened water quality determn. - has siphon connection between measurement cell and mixing chamber contg. porous indicator capsule, used in power plants etc.
HEAT INSUL ACOUSTIC (UYVI=) 25.10.76-SU-415484
J04 R16 (28.12.78) G01n-01/14 G01n-21/56

The device comprises a sampler made as a tube and a water flow stabiliser, an indicator feeder, a mixing chamber, and a measuring cell. In order to increase efficiency the feeder is mounted in the mixing chamber as a porous capsule, while the cell is connected to the chamber via a siphon.
Vitkauskas K.P., Baeras G.I., Bul. 47/25.12.78
25.10.76 as 415484 (2pp132)

LECO= ★ D15 71200B/39 ★SU-639-571
Natural and waste water filter - has staggered inflow tubes located in two courses at bottom of filter, to control pressure head losses
LENGD COMMUNAL RES 28.05.74-SU-027925
J01 (30.12.78) B01d-23/10 C02b-01

The filter comprises a casing with granular packing and a longitudinally-corrugated bottom, together with a distribution system made of perforated tubes located in the bottom valleys. In order to increase productivity by decreasing the head-loss increase rate in the lower part of the packing, and to give more uniform distribution of the impurities over the packing height, the tubes are in two courses. The tubes of the top course are mounted above the hills of the bottom.
Novikov M.G., Lazovskii Ya. B., Bul. 48/30.12.78
28.5.74 as 027925 (2pp132)

LECO= ★ D15 71202B/39 ★SU-639-573
Distribution system for filters used for aq. waste purificn. - comprises pipes having tubes fitted in holes along line of pipe, to intensify washing out of fibrous material
LENGD COMMUNAL RES 06.06.77-SU-492762
(30.12.78) B01d-23/24

Distributing system for filters used for cleaning natural and effluent waters, in particular for filters with air- to air washing, etc. is made from pipes placed into the gravel layer and having holes along the line of the pipe in each case. In order to intensify the process of washing out the impurities from fibrous contamination by simultaneously supplying water and air, the pipes are provided with tubes internally in the holes, or fitted alternately with the holes. Filtration is carried out from above downwards, with the water (effluent) to be treated being fed through other pipes. The water passes into the pipe with the holes inserted into the gravel bed, thus leaving the impurities behind in the tank.
Lazovskii Ya.B., Novikov M.G., Draginskii V.L. et al
Bul. 48/30.12.78 6.6.77 as 492762 (3pp29)

NSEN= ★ D15 71204B/39 ★SU-639-576
Filtering material for water purification - comprising burnt rock contg. clay type minerals and similar to quartz sand
NOVOS ENG-CONS INST 18.03.66-SU-063009
J01 (30.12.78) B01d-39/02

Filtering material for water-treatment filters, e.g. for industrial, effluent, and potable waters, consists of burnt rock, similar to that used when ground-up as aggregate for concrete, and for highway construction. This rock can be used as a filter material since its physico-mechanical properties are close to those of quartz sand or keramzite (porous clay).

Typical compsn. is: (%) SiO_2 68; Fe_2O_3 6; CaO 12; MgO 1.8; Al_2O_3 22 with loss on calcination = 1%. Density is 2.5-2.7g/cm^3; bulk density 1500-1800 kg/m^3; durability to compression is 700-1400 kg/cm^2; and fractional durability to compression is 35-45 kg/cm^2.
Fominykh A.M., Sboeva V.V., Bedrin V.A., Bul. 48/
30.12.78 18.3.66 as 063009 (3pp29)

MOEN= ★ D15 71266B/39 ★SU-639-814
Removing drinking water purificn. coagulant from slime - includes use of chlorine gas for organic cpds. oxidn. and soluble salts formation
MOSC ENG CONS INST 07.02.77-SU-452873
(16.01.79) C01f-07/56 C02b-01/18

The coagulant used in water purificn. e.g. Fe or Al hydroxide, is regenerated from water purifn. slurries by treating the slurries with gaseous Cl_2 in 105-115% stoichiomatic quantity.

On introduction of Cl_2 there is formed HCl which dissolves metallic hydroxides and also hypochlorous acid which oxidises organisms present in the slurry.
Malov V.I., Mkheidze N.D., Zedgenidze A.S. et al.
Bul. 48/30.12.78 7.2.77 as 452873 (2pp1347)

KARP/ ★ D15 71268B/39 ★SU-639-818
Removing petroleum from bilge water by froth flotation separator - using separation chamber with paraboloid air distribution partition, and impeller for discharge of foam by centrifugal force
KARPINSKII YU I 25.09.72-SU-830857
H05 J01 P41 (30.12.78) B03d-01/16 C02c-05

Improved degree of sepn. of petroleum from bilge and ballast water in sea and river ships, effluents from oil-industry plants, etc. is ensured by increased satn. of the material with air-bubbles and enhancement of sepn. by centrifugal forces. Thus the air-distribution partition has the shape of a paraboloid, which increases the number of holes for the given dia. of the chamber, and the latter is equipped with an impeller wheel.
Karpinskii Yu.I., Bul. 48/30.12.78 25.9.72 as 830857 (2pp135)

RIZO/ ★ D15 71269B/39 ★SU-639-820
Hexa:valent chromium ions contg. waste water purificn. - by electrochemical redn. in presence of sulphuric acid using porous graphite or carbon electrodes
RIZO E G 15.03.76-SU-334192
E31 J03 (30.12.78) C02c-05/12

Waste water is treated by electrolysis to reduce ions of Cr (VI) to Cr (III), the process being carried out in presence of sulphuric acid at insoluble electrodes.

The consumption of reagents and of electrical energy can be reduced if the amt. of acid present is maintained at 2-15 g/l instead of 0.5N, and the electrodes are formed of porous graphite or activated carbon instead of lead and graphite. The electrolysis is carried out with filtration of the waste water through the cathode in a direction passing from the anode to the cathode.
Rizo E.G., Gerasimov G.N., Burtsev V.P. et al. Bul. 48/30.12.78 15.3.76 as 334192 (2pp815)

MOSO= ★ D15 71395B/39 ★SU-640-169
Sample-extractor of effluent in open channels - has ladle on end of rod which is lowered to desired depth, raised and tipped into container
MOSOCHISTVOD EFFLUE 18.06.73-SU-932869
J04 R16 (30.12.78) G01n-01/12

Device for extracting samples of liquids automatically, e.g. effluents from open channels and storage tanks in aeration stations over the entire hydraulic cross-section of the structure, consists of a movable base with ladle, provided with a rod and spring to ensure that the samples are extracted uniformly at different flow velocities. The movable base is made as a tube to which one end of the spring is attached, the other end fastened to the rod. A cable connecting the ladle with the rod is installed and the ladle is hinged to the bottom of the tube.
Krogulskii G.V., Ponizovskii S.A., Zapornikov V.P., Bul. 48/30.12.78 18.6.73 as 932869 (2pp29)

GIRE= ★ D15 71399B/39 ★SU -640-182
Waste water di alkyl-phosphoric acid determination - includes extn with chloroform, treating with specified colour forming agent and spectrophotometric analysis
GIREDMET RARE METAL 18.04.77-SU-475960
E11 R16 (30.12.78) G01n-21/24

Qualitative determn. of dialkyl-phosphoric acids in industrial waste waters includes the treatment of water sample with organic solvent and treating extract with colour-forming agent, followed by the extn. and spectrophotometry of the resulting coloured soln.

The selectivity and the sensitivity of the determn. are increased if the test sample is treated with chloroform and the resulting organic phase is sepd. and treated with 0.1-2 N hydrochloric acid soln. of rare earth metal chloride. The chloroform layer is sepd. and treated with quinalizamin in acetone and the resulting coloured soln. is spectrophotometrically analysed.

Zarubina Yu.S., Merisov Yu.I., Bul. 48/30.12.78 18.4.77 as 475960 (3pp938)

CIBA D15 34194W/21 =SU -640-640
Adsorbent for industrial effluents pref. contg. dyes - comprises support plus pptg agent plus carbon, more efficient than carbon
CIBA GEIGY AG 08.11.73-CH-015717
*A97 F09 (30.12.78) *BE-821-941 B01j-01/22 C02c-05/02*

Aq. industrial effluents are purified by contacting with an adsorbent contg. a support pretreated with pptg. agents and active carbon. Partic. used with water from treatment baths in the textile, paper or leather industries or from dye or optical whitener mfr. The treatment is carried out at 10-150°C pref. 30-100°C with the adsorbent in the form of a filter.

The supports are pref. synthetic plastics, mineral filters, partic. cellulosic materials and mixts. of these. The pptg. agent is pref. a basic nitrogen polymer partic. a polyamide-polyamine from a fatty acid polymer and a polyamine, an aminoplast, a polyalkyleneimine. The pptg agent polymer may be associated with a polyanionic polymer partic. of an α,β-ethylonic unsatd. acid, or a polyvalent metal salt or both.

Wurster R., Haaze J., Bul. 48/30.12.78 6.11.74 as 074060 (3pp)

FEIZ/ ★ D15 71483B/39 ★SU -643-432
High speed low cost desalination of water - by treatment with lime and soda and passage through H-cationite filter with recycle of part of treated water
FEIZIEV G K 12.09.77-SU-525174
(27.01.79) C02b-01/16

Water is treated with lime and calcined soda then passed through an H-form cationite filter, and the process can be simplified and the cost reduced if contamination of the reservoir with effluent is prevented.

The water for treatment is mixed with treated regenerated soln. from the H-cationite filter before mixing with the lime and soda. A suitable filter material is a weakly acid or polyfunctional cationite, and the water is passed countercurrently through it. Water contg. Ca, Mg, Na, SO_4, Cl and HCO_3 ions was mixed with 1.6% of its vol. of water from the H-cationite filter, contg. 50 mg/l. Ca ions, then treated with lime and soda at a consumption of 0.23 and 0.12 kg/m^3 respectively.

Fetziev G.K., Bul. 3/25.1.79 12.9.77 as 525174 (2pp815)

WATE= ★ D15 71485B/39 ★SU -643-435
Biochemical sulphate cpds. from waste water removal - by conversion to sulphur with activated sludge at specified temp. and acidity
WATER SUPPLY HYDROT 21.09.77-SU-525766
(30.01.79) C02c-05/10

Biochemical redn. of sulphates in water can be simplified and the cost of the process reduced if the water is treated anaerobically with activated sludge at a pH of 5.5-7.2 and a temp. of 35-40°C. for 48-96 hr. The method gives better results than use of farm-sewage wastes at pH 2.8-4.5 over a period of 24 hr., as this method necessitated an extra stage for removal of the H_2S and S formed, and had a corrosive effect on the appts. owing to the low pH and the presence of H_2S.

The activated sludge used contains Desulfovibrio salexigens as the active agent, and is used in a ratio of 1:1 to the water. The prod. of the reaction is sulphur, which is readily sepd. by known methods. The method only requires simple appts. and is carried out in only slightly acid medium.

Apeltsin I.E., Asatryan T.S., Ass G.Yu., et al. Bul. 3/ 25.1.79 21.9.77 as 525766 (3pp815)

LEEN= ★ D15 71486B/39 ★SU -643-43
Suspended organic and mineral cpds. in faecal waste water removal by three-stage electrolytic flotation and coagulation wit simultaneous sterilisation
LENGD ENG-CONS INST 03.06.77-SU-493107
(30.01.79) C02c-05/12

Faecal aq. waste is subjected to electroflotation followed by electrocoagulation and a second electroflotation.

Simultaneous purificn. and sterilization of the faecal waste water can be achieved if the first flotation is carried out in presence of Cl^- at a current density of 3-7 m. amp/cm^2 for 4-6 min., and the second at 4-6 m.amp for 5-9 min., instead of using 10 m.amp/cm^2 and 15 min for both stages. The Coli index for the improved process wa 20 or less compared to a norm of 1000.

Shifrin S.M., Varygin V.S., Golshev V.K. et al. Bul. 3/ 25.1.79 3.6.77 as 493107 (2pp815)

UTVE- ★ D15 B/39 ★SW 7801-32
Treatment of spent photographic developer - by oxidation o organic substances, adjustment of pH, and adsorption of organi substances
UTVECKLINGS FLUI AB 06.02.78-SW-001323
G06 R23 (10.09.79) C02c-05/02 G03c-11

An oxidant is added to the used photographi developer, to oxidise organic subatance. The pH is then adjusted if nece -ssary. Finally, organic substances in the soln. are adso -bed. 6.2.78 as 001323 (-pp1407)

VYRM- ★ D15 B/39 ★SW 7801-337
Pptn. of iron from ground-water around well - by injecting soil with water that contains oxygen or oxygen donor, so that pptd. iron oxide is filtered out by soil
VYRMETODER AB 06.02.78-SW-001337
(10.09.79) C02b-01/28

The soil around the well is injected with water that contain oxygen or an oxygen-donating substance. The resulting iro oxide is filtered out as the ground-water seeps through the soil.

The oxygen-donating water is injected through a number of vertical tubes that are stuck into the soil at a distance from the well. The tubes are supplied through pipe pipes that are coupled to a pump if necessary. 6.2.78 as 001337 (-pp1407)

NORD- ★ D15 B/39 ★SW 7801-463
Microbe culture appts. for biological purificn. of waste water - comprises rotary spiral strip with stamped surface and smooth retainer band
NORDISKA VATTENPROJ 08.02.78-SW-001463
(10.09.79) C02c-01/04

The microbe culture is grown on the surface of a spirally wound strip which is rotatably mounted on a horizontal shaft. A smooth retainer band is placed close to the spiral strip, and fastened to it. The surface of the spiral strip has a stamped pattern. 8.2.78 as 001463 (-pp1407

PART- ★ D15 B/39 ★SW 7901-112
Preliminary pptn. vessel for purificn. of suspension - stirs suspension with precipitant using blades of progressively weaker effect, before sedimentation or flotation, etc.
PARTEK OY AB 09.02.78-SF-000422
J01 (10.09.79) B01d-21/ B01j-01*

The turbulent suspension with added precipitant is fed to a vessel that contains a mechanical stirrer to homogenise the suspension and encourage pptn. The blades of the stirrer are constructed so that the suspension moves more gently in the zone where pptn. is complete than in the zone where pptn. is beginning.

The suspension and the entrained ppte. are extracted from the zone of complete pptn., for sepn. of the ppte. 8.2.79 as 001112 (-pp1407)

AQUA- D15 53525A/30 = US 4167-973

Decontaminating organically polluted soil and underground water - by removing water, treating, and feeding back to earth layers

AQUATECH SIERRE SA (SCHL-) 22.03.77-CH-003587

*H05 J01 + P35 Q42 Q49 (18.09.79) *BE-865-112 C02b-01/3*

C02b-01/38 E21b-43/22

Chemical decontamination of water from a source polluted with organic materials comprises (1) withdrawing water from the source under pressure; (2) mixing a portion of the withdrawn water with a chemical oxidising agent and/or bactericide; (3) degassing the mixt.; (4) distributing the mixt. into supply lines; and (5) delivering the mixt. to the polluted water source.

The chemical/bactericide added is pref. ozone contg. oxygen, a halogen or a silver salt. The contaminant is partic. an organic pesticide, hydrocarbon e.g. petroleum or other toxic cpd. Method is partic. applicable to appts. for well treatment. 10.6.77 as 805454 (6pp963)

POTT/ ★ D15 71588B/39 ★ US 4168-211

Vapour compression distillation in tubed heat exchanger - with vapour passing downwards through duct and then moving upwards

POTTHARST J E 09.06.78-US-914128 (09.11.73-US-414293)

(18.09.79) B01d-01/28 C02b-01/04

A vapour compression distillation apparatus includes a vertical shell-and-tube vapourizer. The tubes extend between upper and lower horizontal tube plates with the lower plate being submerged beneath the feed liquid. Vapour discharged from the upper tube plate enters a vertical duct which runs down the side of the tubes until it passes a baffle. Adjacent the baffle the vapour flow reverses and it passes upwards therby releasing entrained droplets.

Vapour is compressed and fed to the shell side of the vapourizer where it is condensed to yield a product. The liquid feed inlet discharges into the vertical duet and breaks up the froth formed on the surface of the liquid body at the base of the appts.

The appts. distills brackish water and achieves high heat transfer rates. Reversing the vapour flow release entrained droplets. 9.6.78 as 914128 (+18.8.75-US-605293) (14pp295)

STAD ★ D15 71596B/39 ★ US 4168-228

Aerobic waste water purification process - with recycling of activated sludge and powdered activated carbon

STANDARD OIL CO (IND) 15.06.77-US-806748

(18.09.79) C02c-01/06 C02c-05/10

In a process for the purification of waste water, the water is fed to a first clarification zone where easily removable solids are sepd. The effluent passes on to a filtration or air flotation zone where the suspended solids are separated from the water. The effluent is next passed to an aeration zone where it is contacted with activated sludge having an average sludge age greater than 10 days. Powdered carbon is also contacted with the water and oxygen or air is introduced into the water-sludge-carbon mixture.

The effluent from this last zone is passed to a sec. clarification zone to obtain pure wate and a mixture of sludge and a carbon a portion of which is recycled to the filtration or air flotation zone effluent and a second portion of which is recycled to the first clarification zone effluents.

The process is used to treat contaminated water from municipal or industrial sources to give max. puritication with min. cost. 15.6.77 as 805748 (9pp295)

NALC ★ D15 71597B/39 ★ US 4168-230

Scale prevention in cooling water systems - using phosphated polyethoxylated poly-ol and polyacrylate salt

NALCO CHEMICAL CO 02.06.78-US-912135 (10.11.76-US-740565)

A97 E11 (18.09.79) C02b-05/06

Calcium carbonate scale formation on industrial cooling water systems is prevented by addn. of ≥ 0.5 ppm of a compsn. contg. (I) an alkali metal or ammonium polyacrylate of mol. wt. 3,000-12,000 and (II) a phosphate ester prepd. by reacting P_2O_5 with a polyol of formula $(HO-)_xR[-O(R_1O-)_2CH_2CH_2OH]_y$ (where R is satd. hydrocarbon radical of 2-6C, R_1 is 1,2-ethylene or 1,2-propylene, X is 0-5, Y is 1-6, the sum of x and y is 3-6, 2 is 0-3).

The wt. ratio of (I) to (II) is 1:5 to 5:1. (II) is a phosphated glycerol adduct with 1.5-2.5 moles ethylene oxide.

The wt. ratio of (I) to (II) is pref. 1:1 (II) may also be based on polyols prepd. by addn. of 2-20 moles ethylene oxide to sorbitol or marritol, or of 1.5-2.5 moles ethylen oxide to trimethylol propane. (II) is described in US Pat. 3462365. The dosage is up to 100 ppm., pref. 1-30 ppm. 2.6.78 as 912135 (4pp955)

WATE- ★ D15 71600B/39 ★ US 4168-233

Automatic activated sludge control system - measuring rate of settling of sludge and suspended solids

WATERMATION INC 16.08.78-US-934201

(18.09.79) B01d-21/24

In a sewage treatment plant an automatic sludge control system is operated electronically and includes a sample pump which delivers a sample to a settleometer jar. The interface level in the jar between the settled sludge and supernatant blanket fluid is optically detected. After his measurement the jar is automatically emptied and cleaned.

A centrifuge holds test tubes which are each adapted to receive a sample from the pump. After centrifuging the interface level between the settled solids and supernatant blanket fluid is optically tested. The tubes are emptied and cleaned automatically. The amt. of sludge in the jar and settled solids in the tubes is computed and an output signal is generated indicative of the relative quantity of sludge and solids.

The system is used to test the recycled sludge in a sewage system. The condition of this sludge is determined by measuring the amt. of solids suspended in the fluid and the settling rate of the activated sludge. The results of the testing can be used to control the amt. of activated sludge which is recycled for optimum efficiency of the system. The method replaces a much slower manual process. 16.8.78 as 934201 (7pp295)

BAHR/ D15 57879X/31 = US 4168-236

Filter process for dehydrating sewage sludges - in three phases a increasing press

BAHR A 07.03.75-DT-510010

*(18.09.79) *BE-839-231 B01d-33/04*

Appts. for dewatering sewage sludge has a rotating filter at a first stage; a pair of endless rotating filter belts receiving the sludge from the first stage at a second stage and applying a pressure greater than gravity to the sludge a second pair of belts at third stage whereat there are two rotating platen belts defining nips between them through which the second pair of belts pass, the platen belts applying a higher pressure than that of the second stage.

In use the sludge is retained in the three stages for successively longer times. 23.12.77 as 863894 (+17.11.75-US-632689) (24pp1376)

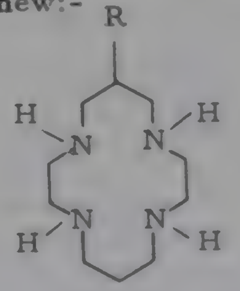
TABU/ D15 74814A/42 = US 4168-265

Alkyl-substd. cyclic alkylene tetramine(s) - useful as heavy meta extractants, metal chelating agents and for recovery of heavy metals, e.g. uranium, from waste water

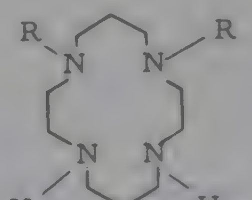
TABUSHI I 19.05.77-JA-057124

*E13 J01 K05 (18.09.79) *GB1529-150 + C07d-245/02*

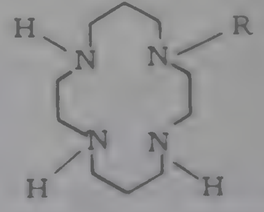
Alkyl cyclams of formula (I)-(III) (where R is 8-20C alkyl are new:-



(I)



(II)



(III)

The cpds. can be used for capturing metal ions, e.g. Cu, Co, Ni, Hg, Cd, Zn etc. from waste water, or for sepg. or concentrating uranium from aq. soln., 3.2.78 as 874985 (7pp997)

OLIN ★ D15 71641B/39 ★US 4168-299
Hydrolysis of urea to ammonia and carbon di:oxide - in an aq. soln. contg. vanadium pent:oxide catalyst
OLIN CORP 20.03.78-US-888440
A41 E14 E16 E34 E36 (18.09.79) C01c-01/08 C07c-126/08

Urea in an aq. soln. hydrolysed to CO_2 and NH_3 in the presence of a catalytic amt. of V_2O_5, followed opt. by sepn., of NH_3 from the soln.

The hydrolysis proceeds significantly faster at a given temp. in the presence of the catalyst, so that a lower residence time and/or lower temp. and press. can be used with savings in equipment costs. Waste water streams from conventional urea prodn. or urea storage or loadin facilities can be subjected to the process. 20.3.78 as 888440 (4pp558)

See Also

D25 DT 2811665

D16 : FERMENTATION INDUSTRY

BOEF ★ D16 69916B/39 ★BE -874-944
Analytical determn. of alpha amylase - using a starch derivative couplable to form a colourant
BOEHRINGER MANNHEIM GMBH 20.03.78-DT-812154
A89 B04 J04 R16 (19.09.79) G01n

Process comprises using a starch deriv. bearing a substituent which can be coupled with to form a colourant. The low mol. wt. soluble prods. formed on scission of the substrate of the starch contg. phase are sepd. and coupled with another cpd. capable of forming a colourant and the amt. of colourant formed is measured.

Process is simpler than the known process using an insoluble coloured starch which has a number of inconveniencies; also it is suitable for using in an automatic analysis appts. 19.3.79 as 874944 (14pp597)

ABBO ★ D16 69922B/39 ★BE -874-956
Stable reagents for hepatitis testing - comprise antigen or antibody on a solid support coated with a sugar
ABBOTT LABORATORIES 16.01.79-US-003827 (20.03.78-US-888051)
A96 B04 J04 R16 (19.09.79) C12k G01n-33/16

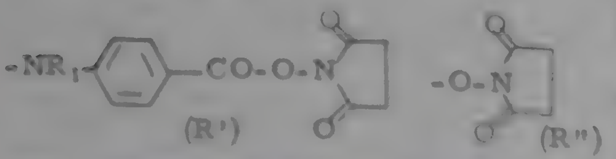
Stable reagent for carrying out immunological test comprises an immunoadsorbant coated with a sugar and fixed on a solid support. The immunoadsorbant may be an antigen or an antibody, typically hepatitis A, surface hepatitis B, nucleus hepatitis B, or hepatitis antigens and the corresponding antibodies. The solid support is pref. a plastic, esp. polystyrene beads. Suitable sugars include xylitol, lactose, glycose, mannitol, sorbitol, dextran and sucrose.

Reagents are used partic. for testing for hepatitis. The sugar coating gives the reagents much greater stability. 19.3.79 as 874956 (15pp520)

WELT/ ★ D16 69942B/39 ★BE -875-064
Enzyme conjugates for immunoassay - prepd. using halo-alkanoic acid derivs. as coupling reagents
WELTMAN J K 24.03.78-US-889726
B04 R16 (24.09.79) G01n

Prepn. of enzyme conjugates is carried out by reacting an immunoactive macromolecular substance (I) contg. amino gps. with the R radicals in a coupling reagent of formula (II): $X(CH_2)_mCOR$ (where X is halogen; n = 1-8; R is a radical reactive w.r.t. amino gps.) and then reacting X with the SH gps. in an enzyme to form a conjugate in which the enzyme is bonded to (I) via (II).

Also claimed are new cpds. (II) where R is a gp. of formula R' or R".



(where R_1 is H or lower alkyl).

The conjugates can be used for enzyme immunoassay of antibodies, antigens, allergens, hormones, etc. They have high stability and better selectivity and sensitivity than conjugates prepd. with prior art coupling agents such as the m-maleimidobenzoate ester of N-hydroxysuccinimide (cf. US 4002532). 23.3.79 as 875064 (17pp367)

CORP ★ D16 69966B/39 ★BE -876-18
Immobilising enzymes, esp. glucose isomerase on supports - afte removing interfering polysaccharide, e.g. by ion-exchanger resin
CPC INTERNATIONAL INC 12.05.78-JA-055691
A89 B04 (03.09.79) C12b

Prodn. of an immobilised enzyme (I) comprises separatin from a crude (I) prepn. the polysaccharide (II) which inhibits adsorption, then treating the purified enzyme soln. with an adsorbent support.

Pref. (I) is glucose isomerase (Ia) obtd. by cultivating a Streptomyces, esp. S.olivochromogenes. A pref.methoc of removing (II) is treatment with an ion-exchanger e.g. a strong (type I or II), medium or weakly basic ion-exchange resin. The immobilised enzyme itself is claimed.

By removing (II), which is esp. present in enzyme compsns. derived from microorganisms which mainly retain (I) inside the cells, adsorption is facilitated. Enzyme which could not previously be adsorbed may now be immobilised. 11.5.79 as 876180 (45pp1251)

ENZY- ★ D16 70022B/39 ★DL -136-424
Determining microorganism suspension decomposition - by measuring conductivity and calibrating w.r.t. basic and max. conductivity
INST ENZYMOL & TECH 05.05.78-DL-205211
R16 (D13) (04.07.79) A23j-01/18 G01n-27/04

The degree of decomposition of mechanically broken up aq. microorganism suspensions is determined by measuring their conductivity and relating it to basic- and max. conductivity. All conductivity measurements take place at the same process parameters.

The degree of decomposition is considered as command variable in protein recovery and as magnitude in the quick estimation of instruments for measuring cell decomposn. 5.5.78 as 205211 (7pp200)

DEAK ★ D16 70048B/39 ★DL -136-503
Prepn. of para-substd. styrene-di:vinyl benzene copolymers - for use as carriers for catalysts, and ion exchangers and as adsorbents for bio-molecules
AKAD WISSENSCHAFT DDR 09.05.78-DL-205279
A13 B04 J01 (A91 A96) (11.07.79) C08f-08

Prepn. of p-substd. polystyrene-divinyl benzene copolymers comprises electrophilic substn. or addn. with monomers of the p-alkali metal derivs., in polar or non-polar solvent at -80°C up to b. pt. of solvent.

Functional groups, complex-forming ligands or other organic gps. are introduced into the copolymers, giving carriers for anchoring transition metal complex catalysts, organo-metallic cpds., and ion-exchangers, and resins for immobilising enzymes, inhibitors and other bio-molecules. The alkali metal derivs. are readily prepd. with widely varying metal concn., and substn. carried out in a simple process which extends the range of functional cpds. obtained from p-chloromethyl derivs. of polystyrene-divinyl benzene copolymers. 9.5.78 as 205279 (18pp195)

BORK/ ★ D16 70051B/39 ★DL -136-506
Preventing beer wort oxidn. during hot sediment sepn. - by rinsing whirlpool with carbon di:oxide to displace air before charging wort
BORKMANN K 02.05.78-DL-205126
(11.07.79) C12c-09/04

Beer wort oxidn. during hot sediment sepn. in whirlpool s prevented by rinsing the whirlpool free from air with CO_2, before entry of the beer wort. Fermentation CO_2, btd. as a by-prod. is pref. used for rinsing. After pass- ge through the whirlpool, the CO_2 can be charged to a CO_2 recovery plant. The CO_2 is charged upwards into hirlpool. CO_2 which is not used as a protective gas can e discharged through an automatic relief valve. 2.5.78 s 205126 (5pp200)

ORS/ ★ D16 ·70106B/39 ★DL-136-746
ndicator soln. for enzymatic glucose determination - contains eroxidase having high purity index and specified activity
PORSTMANN B 01.03.78-DL-203915
B04 J04 (D13) (25.07.79) C07g-07/02

Enzymatic glucose determination uses peroxidase having a purity index 0.1-0.13 and specific activity 7-10 international units/mg. Concn. for solns. ready for use is 25-50 (30) mg/1000 ml. The peroxidase is prepd. by the extn. of peroxidase isoenzymes after the reaction of the crude peroxidase with Concanavalin A-Spharose with phosphate- or acetate buffers.

The indicator soln. is used in medical diagnosis for determining blood sugar, in chemistry, biochemistry and food industry. 30 mg material can replace 20 mg crude peroxidase having purity index 0.3 and specific activity > 32 I.U./mg. 1.3.78 as 203915 (5pp200)

SNAM D16 32708V/18 =DS 2363-285
l-malic acid prodn by microbiological fermentation - from fumaric acid using paracolobactrum 743, 745 or 746 as fumarase source
SNAMPROGETTI SPA 27.12.72-IT-033567
*E17 (20.09.79) *BE-808-849 C12d-01/02*

l-Malic acid is prepd. from fumaric acid by fermentation with Paracolobactrum aerogenoides no. 743 (CBS Nor. 405.73).

Pref. the culture medium contains C and N sources, esp. glucose, glycerin, starch etc. and peptone, hydrolysed deriv. of casein or soybeans, ammonium sulphate and/or phosphate, malt extract or maise or cereal steep liquor, respectively. 19.12.73 as 363285 (4pp068).

ISTS D16 28081B/15 =DS 2822-539
Adenylate kinase inhibitor, esp. for creatine kinase determn. - comprising adenosine mono:phosphate and a fluoride
IST SIEROTER VACC SCLAVO 30.09.77-IT-028139
*B04 R16 (20.09.79) *DT2822-539 G01n-31/14 G01n-33/16*

New reagent for inhibiting adenylatekinase contains adenosine 5'-monophosphate (1 pt. wt.), and fluoride, (0.15-25 pts. wt.), as the active components. The prods. (30-60 vols.), are used for the determn. of creatinekinase activity in serum samples, (1 vol.), esp. for the early detection of myocardiac insufficiency and progressive muscle dystonia. 23.5.78 as 822539 (7pp047).

HEIN/ ★ D16 .70216B/39 ★DT 2811-782
Accelerated hop cone drying - by heating during consecutive intervals to temps. above or below max. temp. tolerated by prod.
HEINDL A 17.03.78-DT-811782
P15 Q76 (20.09.79) A23f-03 A24b-01/02 C12c-03/02 F26b-03/06

During at least part of drying time, hop cones and other similar sensitive prods. are dried, during consecutive intervals, at temps. above and below the max. temp. tolerated by the prod., provided the temp. generated inside prod. does not exceed the max. temp. tolerated by the prod.

Each interval takes pref. 5-60 (10-25) min. The temp. generated inside prod. is kept, for safety, a few °C below the max. temp. tolerated by the prod. In pref. processes, the highest and lowest temps. are 110°C and 30°C, respectively, for a 5 min interval; 100°C and 40°C for a 10 min interval; and 90°C and 60°C for a 25 min. 17.3.78 as 811782 (6pp200)

NEST ★ D16 70242B/39 ★DT 2907-721
Stable plasmid- contg. Lactobacillus species culture prodn. - in culture medium contg. acetyl glucosamine as main carbon source
SOC PROD NESTLE SA 16.03.78-CH-002861
(D13) (20.09.79) A23c-09/12 A23c-19/02 C12k-03

A lactobacillus microorganism species, contg. ≥1 extrachromosomal genetic element which (i) stimulates lactic acid generation capacity from lactose and (ii) controls capacity to metabolise N-acetyl-D-glucosamine, is cultivated in a nutrient medium contg. N-acetyl-D-glucosamine as the main assimilatable C-source.

The microorganism is pref. Lactobacillus helveticus (I) of sub-species jugurti no. S 36-2 of the Agricultural Microbiological Inst. of Bologna University.

The microorganisms are used in the prepn. of yogurt and cheese, esp. of Gruyere, Emmenthaler and parmesan. Stable cultures are obtd. Lactic acid formation is increased, e.g. from 1.5 to 2.4%. 28.2.79 as 907721 (10pp200)

PENT- D16 83127X/45 =GB 1553-272
Chromogenic or fluorescent tripeptides - for quantitative assay substrates of thrombin, plasmin trypsin etc. in biological fluids
PENTAPHARM AG 23.06.75-CH-008224
*B04 R16 (26.09.79) *BE-843-245 C07c-103/52 G01n-31/14*

A substrate for the quantitative determination of proteolytic enzymes of class E.C.3.4.4. which split peptide chains on the carboxyl side of arginine and lysine in mammal body fluids, in animal cell extracts and in glandular venoms of cold-blooded animals, comprises a cpd. of formula R_1-Gly-Pro-X-NH-R_2 or an acid addition salt of the cpd.

In the formula, R_1 is H or an acyl, alkanesulphonyl, or arylsulphonyl gp.; R_2 is an opt. substd. aromatic hydrocarbon gp.; and X is an L-arginyl or L-lysyl gp.; -NH-R_2 being the residue of an amine NH_2R_2 which is a chromogen or is fluorescent.

When the cpd. or salt is subjected to the proteolytic action of the enzymes, it yields a product of formula NH-R_2, the quantity of which is measurable by photometric, spectrometric or fluorescence-photometric methods. The substrates have a high susceptibility e.g. to plasmin and trypsin. 22.6.76 as 025832 (25pp990)

WALK- ★ D16 70389B/39 ★GB 2016-476
glucoamylase and alpha amylase system prodn. - by cultivating Aspergillus niger with pH control, useful in grain spirits prodn.
WALKER & SONS HIRAM 29.11.77-CA-292032
(26.09.79) C07g-07/02

Prodn. of enzyme system with high glucamylase (G) and α-amylase (A) activities comprises cultivating Asperpgillus niger NRRL 3112 or 3122 under submerged aerobic conditions in a cereal grain medium of high concn. maintained at pH 4.4-6 (4.5-5.5).

Pref. the pH is maintained using NH_3 or NH_4OH, esp. gaseous NH_3 introduced with the air stream. The medium may be supplemented with grain stillage or distillers' dried solubles. Also new is liquefaction, saccharification (and opt. fermentation) of a starch prod. to yeast mash (or alcohol prod.) using this enzyme system.

pH control prevents destruction of (A) so that additional starch liquefaction enzymes (e.g. as found in malting barley) are not required. Higher concns. of (G) are also achieved. 28.11.78 as 046421 (6pp1251)

SUPE- ★ D16 B/39 ★IT 1032-193
Purificn. of wheat to remove alpha-amylase inhibitors
IST SUPERIOR SANITA 23.10.74-IT-086288
(30.05.79) C12k

PARO/ ★ D16 B/39 ★IT 1032-200
Vinegar prodn. appts.
PAROLAI M L 09.01.75-IT-047585
(D13) (30.05.79) C12j

MEIJ ★ D16 70528B/39 ★J5 4103-801
Antibiotic SF-1993, prepd. from Streptomyces strain - is used against Gram-negative bacteria and yeast or fungi
MEIJI SEIKA KAISHA 27.01.78-JA-007333
B04 (15.08.79) A61k-35/74 C07g-11 C12d-09/14

The new antibiotic SF-1993 comprises neutral, colourless needles of m.pt. 158-159°C (from methanol), and has $[\alpha]^{20}_{D}$ +73.6° (in water), elementary analysis 38.17% C, 6.45% H, 11.84% N, and 43.54% O, mol. wt. 320 as (estimated by vapour pressure method) and specified IR, NMR and UV spectra. It is soluble in water, hardly soluble in methanol and insoluble in acetone, benzene and ethyl acetate.

The colour reactions show positive to potassium permanganate, silver nitrate-potassium hydroxide, resorcinol-HCl and Ehrlich reactions, and negative to ninhydrin and 2,3,5-triphenyltetrazolium reactions. 21.2.78 as 007333 (7pp33)

TAKE ★ D16 70698B/39 ★ J5 4104-896

Pretreating agent for removing natural agglutinin s) etc. from serum - consists of aq. suspension of fixed erythrocytes and kaolin particles

TAKEDA CHEMICAL IND KK 06.02.78-JA-012655

B04 R16 (17.08.79) G01n-33/16

A pre-treating agent for virus agglutination reaction consists of (A) aq. suspension contg. (a) fixed erythrocyte of fowls and (b) kaolin particles. The formulation of the pre-treating agent is freeze-dried substance of (A).

The fowls include hen, goose, duck, etc. The erythrocyte is fixed with, e.g. formalin, glutaraldehyde, etc. (b) has particle dias. of 100-325 mesh. The medium of (A) are e.g., distilled water, buffer soln., etc. and the pH of (A) is 6.0-9.0.

The pre-treating agent completely removes non-specific agglutination-inhibitors and natural agglutinins in a single step by a simple method. 6.2.78 as 012655(5pp90)

ASAH ★ D16 70714B/39 ★ J5 4105-063

Prepn. of compost from starch-type organic material - by heating and aerobically fermenting in presence of nitrogen, phosphorus and potassium sources

ASAHI CHEMICAL IND KK 23.01.78-JA-005171

(D17) (17.08.79) C05f-09/04

Process comprises (a) heating starch-type organic material (I); (b) aerobically fermenting the treated material with the addn. of N-, P- and K sources; and (c) maturing the prod.

Starch refuse generated e.g. in the mfr. of starch, paste, corrugated cardboard or noodles, can be reused as compost.

Pref. (I) include starch and starch derivs. such as the acetyl ester, methylether and allylester. Pref. (I) has a water content of $\geq$30% (40-80%). Pref. heating is effected at 50-100°C, for 3-60 secs. Suitable N sources include activated sludge, fermentation liq. waste, excrements of domestic animals, ammonium phosphate, ammonium sulphate, etc. 23.1.78 as 005171(3pp108)

EISA ★ D16 70781B/39 ★ J5 4105-222

Solid preparations of lysozyme - obtd. by dissolving lysozyme in water and mixing with phospholipid and sorbitan unsatd. fatty acid

EISAI KK 31.01.78-JA-008867

B04 (18.08.79) A61k-09/14 A61k-47

Solid prepns. of lysozyme are obtd. by dissolving lysozyme in a hydrophilic solvent (esp. water), mixing the soln. with a phospholipid and sorbitan unsatd. fatty acid ester and formulating the resultant mixt. into a suitable dosage form.

Lysozyme is useful as a mucolytic enzyme. The prepn. is stable to the action of pepsin in stomach.

Examples of the phospholipid are phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, phosphatidylinositol and lecithin. The sorbitan unsatd. fatty acid esters include sorbitan monooleate, sorbitan dioleate, sorbitan trioleate and their mixt. 31.1.78 as 008867 (5pp33)

MITD ★ D16 70797B/39 ★ J5 4105-286

Fixed microbial enzyme prepn. - by freezing microbial body showing enzymatic activity, defrosting, adding gelatin or casein sodium, kneading, solidifying and drying

MITSUI SEITO KK 31.01.78-JA-008825

A97 (18.08.79) C07g-07/02 C12d-13 C12k-01

The method comprises (a) freezing the microbial body showing enzymic activity, (b) defrosting, (c) adding gelatin or casein sodium 2-20% on the solid of the microbial body, (d) kneading the mixt. to paste, (e) immersing in acetone soln. contg. glutaraldehyde 0.2-1.0% for solidifying the paste, (f) removing the soln. by filtration and (g) drying without washing.

Almost all kinds of endoenzymes can be easily fixed inexpensively in granules using glutaraldehyde as the crosslinking agent and gelatin or casein sodium as the reinforcing agent.

Pref. viscosity-increasing agent (e.g. gum arabic, dextrin, CMC, guar gum, etc.) in amt. of 2-20% on the solid of the microbial body is combined with gelatin or casein sodium for obtg. porous fixed enzyme. 31.1.78 as 008825 (7pp5)

MITN ★ D16 70798B/39 ★ J5 41

Cultivating methanol-utilising microbes - using a culture m
contg. sea water and methanol as carbon source

MITSUBISHI GAS CHEM IND 01.02.78-JA-010250

(18.08.79) C12b-03/02

The method is to culture the methanol-utilisable mic
in a culture medium contg. methanol as the carbon sc
and uses uses sea water or a mixt. of fresh water an
water in prepg. the culture medium.

Hansenula polymorpha I-3 FERM-P 3929, Candida
dinii, Torulopsis methanoescle, Hansenula hirodendo
and Pichia pastolis can be used. Among them H. poly
pha I-3 is pref., because it can multiply under acidic
dition of pH 3.0-4.5 and gives high yield for microbia
body of high protein content.

Some microbes can be cultured sufficiently in the c
ure medium prepd. with sea water or the mixt. of fre
water and sea water. Sea water contains various ions
some vitamins and they can be utilised effectively. 1.
as 010250 (9pp5)

TOPP ★ D16 70799B/39 ★ J5 410

Anaerobic bacteria culture process - carried out in sealed ves
presence of oxygen-absorbing compsn. contg. ascorbic ac
ferrous sulphate

TOPPAN PRINTING KK 31.01.78-JA-010282

(18.08.79) C12k-03

Method comprises sealing an ascorbic acid-contg. or
rous sulphate-contg. O_2-absorbent compsn. together w
the culture medium, in which anaerobic bacteria are i
culated, in an airtight vessel. Anaerobic conditions ar
thus easily provided without complex processes and sp
ial equipment. The culture can be carried out over a w
temp. range without wetting or drying the culture medi
excessively.

Typical compsns. of the O_2 absorber are as follows:
(A) Fe powder 11 pt. wt., $FeSO_4.7H_2O$ 16.5 pts. wt.,
$Ca(OH)_2$ 4.4 pts. wt., $Na_2SO_3.7H_2O$ 3 pts. wt., $CaCl_2.2H$
2.5 pts. wt. and active carbon 1 pt. wt.; (B) Fe powder
pts. wt., $FeSO_4.7H_2O$ 35 pts. wt., $Ca(OH)_2$ 6 pts. wt.,
$Na_2SO_3.7H_2O$ 4.5 pts. wt., $NaHCO_3$ 2 pts. wt., $CaCl_2.2H$
2.5 pts. wt. and active carbon 1 pt. wt.; (C) L-ascorbic
acid 10 pts. wt., $Ca(OH)_2$ 30 pts. wt., CuCl 1 pt. wt. and
active carbon 5 pts. wt.; (D) L-ascorbic acid 6 pts. wt.,
$FeSO_4.7H_2O$ 2 pts. wt., $Ca(OH)_2$ 4 pts. wt. and $Na_2CO_3.1$
H_2O 10 pts. wt.

The compsns. are packed in a material having suitab
gas-permeability, and during storage they are packed i
gas-barrier material. Compsns. (A) and (C) absorb O_2
and compsns. (B) and (D) absorb O_2 with formation of
CO_2. 31.1.78 as 010282 (3pp5)

MITR ★ D16 70800B/39 ★ J5 4105-2

Insolubilised enzyme prepn. - by dispersing ice pieces con
enzymes in soln. of water-insol. high mol. cpd. in organic solve
and removing solvent

MITSUBISHI RAYON KK 30.01.78-JA-009176

A97 (18.08.79) C07g-07/02

Method comprises dispersing ice pieces contg. enzyme
a soln. obtd. by dissolving water insoluble high mol. su
stance in organic solvent and removing the organic solve
from the dispersion to include the ice pieces in the wate
insoluble high mol. substance.

Enzyme is once included in ice and enzyme can be inc
luded in water insoluble high mol. substance without los
of enzymic activity.

The removal of the organic solvent is practiced either
under reduced pressure or with the non-solvent for the
water insoluble high mol. substance. The ice pieces incl
-ding enzyme are obtd. by freezing the aq. soln. contg.
enzyme in the liq. cooling medium, which is the organic
cpd. having m.pt. or solidifying point below 0°C. in ice
pieces having dia. $\leq$ 1 mm.

As water insoluble high mol. substance cellulose acet-
ate, ethylcellulose and the polymers such as polyacrylon-
itrile, polyacrylate, polymethacrylate, polystyrene, pol
vinylacetate, polyvinylchloride and their copolymers can
be used. Though the enzyme is apparently insolubilised a
the time when ice is melted, the porous insolubilised en
yme having large surface area, can be obtd. by freeze-

drying it under vacuum. 30.1.78 as 009176 (9pp5)

AKA- ★ D16 70801B/39 ★ J5 4105-291

holesterol-oxidising enzyme prepn. - by culturing basidiomycete elonging to Agrocybe

TAKARA SHUZO KK 01.02.78-JA-010735

B04 (18.08.79) C12d-13/10

Method is characterised by culturing Bacidiomycete belonging to Agrocybe and recovering cholesterol-oxidising enzyme (c-oxidase) accumulated in the cultured liq.

The c-oxidase is produced extracellularly and non-adaptively. Objective c-oxidase can dehydrogenise the hydroxyl gp. on the 3β-position of cholesterol and sterols to form H_2O_2 and can be used for enzymic assay of cholesterol.

Pref. Agrocybe pediades K-1(FERM-P 4343) is used giving c-oxidase in the culture medium free of cholesterol. The culture is at 20-35°C at pH 4-7 for 2-7 days. The enzyme is exoenzyme and after removing the microbial body by filtration, the enzyme can be sepd. by adding an organic solvent, resin, pptg. agent, etc. to the filtrate. Then, the enzyme is refined by gel filtration, column chromatography, dialysis, etc. Objective c-oxidase has optimum pH at 6.0-7.0 and optimum temp. at 40-50°C. 1.2.78 as 010735 (6pp5)

MITN ★ D16 70802B/39 ★ J5 4105-292

Fermentative prodn. of coenzyme/Q-10 - by cultivating Protaminobacter rubber under aerobic conditions

MITSUBISHI GAS CHEM IND 06.02.78-JA-012208

B05 (18.08.79) C12d-03/02 C12d-13/10

Fermentative prodn. of coenzyme Q_{10} comprises cultivating a coenzyme Q_{10}-producing strain of Protaminobacter in a nutrient medium and extracting the produced coenzyme Q_{10} from the cultured cells. A pref. strain is Protaminobacter ruber. The fermentation is carried out at 20-45 °C under aerobic conditions. During fermentation, the medium is kept at pH 5-10, pref. 6-7.5.

Coenzyme Q_{10} is useful as a pharmaceutical and an element of animal health prods. Mass prodn. of coenzyme Q_{10} is possible. 6.2.78 as 012208 (4pp)

MITU ★ D16 70803B/39 ★ J5 4105-294

Sepg. androsta-3,17-di:one(s) from steroid impurities - by acylating and crystallisation or column chromatography

MITSUBISHI CHEM IND KK 01.02.78-JA-010160

B01 (18.08.79) C07j-09 C12d-13

The method comprises contacting a mixt. contg. androsta-1,4-diene-3,17-dione (ADD) or androsta-4-ene-3,17-dione (4AD) and >20-hydroxymethylpregna-1,4-diene-3-one (HPD) or 20-hydroxymethylpregnene-4-ene-3-one (4HD) as the impurities with acylating agent at the presence of inert solvent e.g. pyridine at -20-100°C for acylating the hydroxyl gp. of HPD or 4HP selectively and sepg. ADD or 4AD from the acylated steroid mixt.

ADD and 4AD are important intermediates for steroid cpds. and they have been prepd. by oxidising steroids microbially. The obtd. ADD and 4AD usually contain byproduced steroids such as HPD, 4HP, etc. which have been difficult to separate from ADD and 4AD. By acylating the hydroxyl gp. of HPD and 4HP the solubility of HPD and 4HP in organic solvent can be increased and the adsorptive property of HPD and 4HP on the adsorbent e.g. silica gel, alumina, etc. used in column chromatography, can be decreased, ADD and 4AD can be easily sepd. from impurities such as HPD, 4HP, etc. by crystallisation or column chromatography.

As acylating agent acetic anhydride, propionic anhydride, acetylchloride, benzoic anhydride, benzylchloride, etc. can be used. 1.2.78 as 010160 (8pp5)

DAIN ★ D16 70909B/39 ★ J5 4106-401

Antibiotic tendomycin - also active against some tumour cells, prepd. by fermentation of Streptomyces hygroscopicus

DAINIPPON PHARM KK 07.02.78-JA-013171

B04 (21.08.79) A61k-35/74 C07g-11 C12d-09/14

An antibiotic, tendomycin (I) has the following characteristics: (1) a white pellet-like substance, (2) m.pt. 136-139 °C, (3) analysis C 57.20, H 9.21, N 3.76, (4) proposed formula: $C_{53}H_{101-103}N_3O_{20-21}$ (5) specific rotation: $[\alpha]_D^{26.5}$ + 21.6° (c = 1.0 in dimethylsulphoxide), (6) UV: λ_{max}^{MeOH} 218 mμ ($E_{1cm}^{1\%}$ 100). Solubility soluble in chloroform-methanol, dimethylsulphoxide, and hot methanol, insoluble in water, ethyl acetate, acetone, hexane, ethanol and ether.

(I) is active against gram-positive bacteria, mycobacteria, Eumycetes and certain tumour cells.

The antibiotic is prepd. by fermentation of Streptomyces hygroscopicus No. 9034 (Ferm-P 4356). The fermentation is carried out at 25-35°C, pref. at 28-30°C. for 2-5 days under submerged aerobic conditions. 7.2.78 as 013171 (6pp16)

NOGY- ★ D16 71055B/39 ★ J7 9026-511

Deodoriser, e.g. gas from drier of fowl droppings - in which the gas is passed through soil permitting activation of bacteria

NOGYO KIKAIKA KENKY 00.00.68-JA-040744

J01 (04.09.79) B01d-53/04

The deodoriser comprises a semi-cylindrical hood formed of arcuate-curved webs joined to juxtaposed position, and a pair of spaced sets of porous blocks supporting the spaced bottom ends of the hood and including apertures for discharging the gas from the hood chamber. The hood-block assembly is placed in a pit which is filled with gas-permeable soil permitting activation of bacterias therein.

As the exhaust gas passes from the hood chamber through the soil to the top of the pit, the malodorous components in the gas are decomposed by the bacteria, to mature the soil. 3.5.67 as 40744/68 Bold-53/04 (4.9.79)NOGYO KIKAIKA KENKYUSHO (3pp47)

NOGY- ★ D16 71056B/39 ★ J7 9026-512

Deodoriser for removing foul odours from gas - where gas is humidified, passed through heat exchanger to cool it, and then through soil-packed chamber for bacterial treatment

NOGYO KIKAIKA KENKY 03.08.68-JA-055076

J01 (04.09.79) B01d-53/04

Deodoriser for removing unpleasant odours components from exhaust gas, comprises a pretreating tower including a moisture controlling chamber with a number of water spray nozzles in it, and a heat exchanger in the upper portion of the tower, and a deodorising unit including a hollow bottom chamber and a soil-packed chamber defined above a perforated plate.

An exhaust gas is first introduced into the moisture controlling chamber where the gas is humidified to a certain degree and then passed through the heat exchanger tube to be cooled to a controlled temp. such that when the gas is introduced into the soil packed chamber, the temp. and moisture content of the gas are at most adequate level for the activation of the bacteria. 3.8.68 as 055076 B01d-53/04 (4.9.79) NOGYO KIKAIKA KENKYUSHO (4pp47)

PIEC ★ D16 71082B/39 ★ NL 7802-578

Peptide synthesis - using polynucleotide carrier and/or enzymatic de protection and/or special methods of prod. purificn.

PIERCE CHEMICAL CO 09.03.78-NL-002578

B04 (11.09.79) C07c-103/52

The following processes for synthesising peptide chains with a predetermined sequence of amino acid segments are claimed.

(A) A pure intermediate complex comprising a 1st amino acid segment (Ia) covalently bonded to a polynucleotide (IIa), in which (Ia) has a free terminal COOH or NH_2 gp., is reacted in an aq. medium with a 2nd amino acid segment (Ib) having a protected COOH or α-NH_2 gp. respectively. Any unreacted complex is then opt. remoed, and (IIa) is reversibly coupled to a complementary polynucleotide (IIb) immobilised on an insoluble carrier. The prod. is sepd. from unreacted (Ib), and (IIa) is released from (IIb). Then, opt., the COOH or NH_2 group is deprotected the process is repeated until the required no. of amino acid segments have been added, and the peptide chain is released from (IIa).

(B) A pure intermediate contg. a 1st amino acid segment with a free terminal COOH or NH_2 group is reacted in an aq. medium with a 2nd amino acid segment having a COOH or α-NH_2 group respectively protected by an enzymatically hydrolysable protecting group, and the resulting peptide is enzymatically deprotected.

(C) A pure intermediate contg. a 1st amino acid segment with a free terminal COOH or NH_2 group is reacted in an aq. medium with a 2nd amino acid segment having a protected COOH or α-NH_2 group respectively, and any unreacted intermediate is removed by enzymatic decompsn or scavenging. 9.3.78 as 002578 (36pp367)

BIOT= ★ D16 71171B/39 ★SU -639-494
Continuous cultivation of photo-autotrophic microorganisms - by optimising suspension concentration by optimum temperature in relation to lighting
BIOTECH RES INST 07.02.77-SU-452172
P13 (30.12.78) A01g-31/02 A01h-13 C12b-01/08

The Parent Patent Cert. No. 438396 describes continuous cultivation of photo-autotrophic micro-organisms by feeding the nutrient medium according to an illumination-determined optimum concn. and removing the suspension as a function of any deviation. In order to increase the yield of biomass (20%) the optimum temp. of the suspension is related to the illumination and the concn. is optimised accordingly. Such biosynthesis is useful in the microbiological and foodstuffs inds. and in agriculture.
Berkovich Yu.A., Valulev V.D., Danilov V.N. et al. Bul. 48/30.12.78 7.2.77 as 452172 Add to 438396 (2pp 840)

CHAR= ★ D16 71293B/39 ★SU -639-862
L-proline sepn. from bacterial amino acid synthesis mixt. - includes de-amination and reducing splitting in presence of catalyst e.g. ferrous chloride, to increase yield
CHARENTSAVAN GENETI 03.05.77-SU-481196
B03 E13 (30.12.78) A61k-31/13 C07c-99/02

L-Proline can be sepd. from mixts. of amino acids by de-amination, reducing splitting, filtration, desalination and crystallisation.

The yield is increased by carrying out the de-amination at 5-15°C; and carrying out the reducing splitting of the resulting nitro- L-proline in presence of a catalyst, in partic. the cloride of a gp. VIII metal, e.g. $FeCl_2$.

The resulting L-proline is sepd. by adsorption on a cationite, followed by elution and evapn. of the eluate. The yield is 65-70% (31% in the known process).
Muradyan A.G., Dganesyan M.G., Maneshin V.V., Bul. 48/30.12.78 3.5.77 as 481196 (2pp70)

SPOL/ ★ D16 71296B/39 ★SU -639-866
Chromatographic purificn. of trypsin - using porous matrix e.g. silica gel pretreated with aminopropyl- tri:ethoxy-silane
SPOLITE D A 10.05.77-SU-482876
B04 (30.12.78) A61k-37/02 C07c-103/52

Trypsin is purified by passing a trypsin-contg. soln. through an affinic material contg. ligands (deriv. of amidine or guadinidine) fixed to an insoluble matrix.

The method is improved by using as an insoluble matrix a porous silica material (pref. silicagel, silochrome or porous glass) treated with γ-aminopropyl-triethoxy-silane By this method the service life of the affinic material is extended, and trypsin is purified more efficiently.
Spolite D.A., Kukurans D.Ya., and Aren A.K., Bul. 48/30.12.78 10.5.77 as 482876 (2pp70)

AKMI= ★ D16 71328B/39 ★SU -639-929
Nutrient medium for culturing Aspergillus fungal strain - includes acid or alkali extract of comminuted grape pressings, used in pectolytic enzyme prodn.
AS KAZA MICROBIOL 01.08.77-SU-512593
(30.12.78) C12d-03 C12d-13/10

Nutrient medium used for culturing Aspergillus-type fungi to produce pectolytic ferments, includes an extract of grape pressings obtd. by cominuting the pressings and extracting them with an alkali or acid soln.

The feuzyml obtd. from the resulting culture has superior activity. Where an alkali soln. is used, the extn. is carried out pref. with 0.02-0.1N soln. at 18°-20°C where an acid is used, the extraction is carried out pref. at pH 3-5 at 98-100°C.
Gavrilova N.N., Pyataeva M.I., Tarasyukova Z.I., Bul. 48/30.12.78 1.8.77 as 512593 (2pp314)

VOTE= ★ D16 71329B/39 ★SU -639-93
Prodn. of beer-type drink - including brewing blend of malt, wate hop extract, yeast and alcohol
VORON TECHN INST 09.02.76-SU-324842
(30.12.78) C12c-11/04 C12g-03/02

Beer type drink is made in a shorter method and with reduced losses by: mixing water with malt to a dry material concn. of 4.2-4.3% adding hop extract, yeast, alcohol in an amt. 0.28-0.32 l/dil. and colour in an amt. 20-26 mls /dil., brewing for 12-14 hrs. at 20-22°C. and then cooling, filtering, carbonising and bottling.

In a pref. method, amt. of yeast added is 3.0-3.2 vol.% and amt. of hop extract added is 13-14 g/dil.
Fedorov V.A., Shishatskii Yu.I., Mochalova G.N. et al Bul. 48/30.12.78 9.2.76 as 324842 (2pp314)

SACH/ ★ D16 · 71330B/39 ★SU -639-93
Prodn. of brandy-type spirits - includes secondary fermentation o spent grain residue using specified sugar addn. and yeast strain
SACHAVO M S 13.09.76-SU-405755
(30.12.78) C12g-03/12

Brandy type spirits are obtd. by (a) forming a mixt. of fermented grain residues, sugar-contg. soln. and a pure yeast culture, (b) fermenting the mixt. to a residual suga content of 0.1-0.3%, (c) ageing in the yeast for 12-18 days, (d) distilling the resulting liquor,

The middle distillate of 62-70 vol.% alcoholic strength is recovered and the prod. blended with suitable blending components.
Sachavo M.S., Bul. 48/30.12.78 13.9.76 as 405755 (2pp 314)

AAZI= ★ D16 71331B/39 ★SU -639-934
Purifying and clarifying wine and wine prods. - includes use of mixt. of bentonite aq. suspension and sodium carbonate aq. soln.
AS AZERB INORG PHYS 31.05.77-SU-489589
(30.12.78) C12h-01/04

Wines and wine prods. are purified by treatment with a mixt. of a bentonite suspn. and Na_2CO_3 soln. The amt. required is equiv. to a bentonite exchange capacity on Ca^{++} and Mg^{++} of 53-98g per kg of bentonite.
Miskarli A.K., Zemlyanskaya Y.A.V., Mamed-Zade B.I. Bul. 48/30.12.78 31.5.77 as 489589 (2pp314)

NIZH/ ★ D16 71332B/39 ★SU -639-935
Microbiological prodn. of vinegar - by culturing Medusomyces Gisevii Zindau fungal strain in nutrient medium contg. black tea extract and sugar syrup
NIZHARADZE A N 01.06.76-SU-366534
(D13) (30.12.78) C12j-01/02

Vinegar is obtd. in good yield by culturing tea plant fungus Medusomyces Giservii Zindau in a nutrient medium comprising a mixt. of black tea extract and sugar syrup.

A pref.d culture lasts 12-15 days and is carried out under aeration at 25-30°C.
Nizharadze A.N., Goglishvili Z.M., Bolkvadze Z.A. et al. Bul. 48/30.12.78 1.6.76 as 366534 (2pp314)

BIOT= ★ D16 71333B/39 ★SU -639-938
Measuring degree of enzymolysis of cell wall - by estimating amt. of enzymatic lysis prods. based on alkali consumption
BIOTECH RES INST 08.08.77-SU-516642
(30.12.78) C12k-01

The fermentation rupture of microorganism cell walls is measured in conditions of constant temp. pressure and pH by measuring the prods. of enzymolysis by adding alkali and determining the amt. of alkali consumed; this provides an accurate measure of the degree of cell wall disintegration.
Konovalov S.A., Vorotilo S.P., Aisakov A.T. et al. Bul. 48/30.12.78 8.8.77 as 516642 (2pp314)

LEDA= ★ D16 71334B/39 ★SU -639-939
Estimating Streptococcus faecalis content of milk prods. - includes culturing in medium contg. meat-peptone agar, colour indicator and sorbitol
LENGD BR DAIARY IND 11.05.76-SU-356293
(D13) (30.12.78) C12k-01/06

Nutrient medium content comprises (by wt.): 98.45-99.45 % meat-peptone agar, 0.05-0.06% Congo red indicator and balance sorbitol carbohydrate, pref. added as a 10% soln.

The medium is low cost and provides sharp visual idenication of the above enterococcus types. A typical cultation takes 16-18 hrs. at e.g. 37°C.
egontova T.A., Filatov P.S., Bul. 48/30.12.78
.5.76 as 356293 (2pp314)

DA= ★ D16 71335B/39 ★SU -639-940
gar-free dietetic milk prod. prodn. - using specified high activity
d stability lactobacterium acidophilum strain
SIBE BR DAIRY IND 31.08.77-SU-523138
(D13) (30.12.78) A23c-09/12 C12k-03

ells of Bacterial strain hactobacterium acidophilum $_{2}III_{24}$ are bacilli-form of varying length and measuring 3-14) x (1.0-1.5)u; they occur either singly or in 2 or 3-nember chains; they are Gram-positive.

On an agar with hydrolysed milk, the colonies are rey-white and flat with uneven edges; dia. of a 2-3 day rowth is 0.5-1.5mm; beneath the surface spidery proruberances appear in the medium.
ukovnikova L.A., Koroleva N.S., Denisova V.A. Bul.
8/30.12.78 31.8.77 as 523138 (3pp314)

EPI= ★ D16 71336B/39 ★SU -639-941
etection of influenza virus infection - by inoculation into chick
mbryos using trachea tissue culture as virus-sensitive substrate
KAZAKH EPIDEM MICRO (AKMI=) 10.05.77-SU-487212
B04 (30.12.78) C12k-07

An influenza virus is identified by placing a test sample in a substrate comprising an explantate of a chick trachea; interrupting the reproductive cycle of the virus, homogenising the explantate; and inoculating it into chick embryos.

The use of chick trachea explantates as an influenze virus sensitive substrate improves the sensitivity and accuracy of the process.
Irzhanov S.D., Isaeva E.S., Sokolova N.N., et al.
Bul. 48/30.12.78 10.5.77 as 487212 (2pp314)

SUND/ ★ D16 71526B/39 ★SW 7713-285
Composting appts. with upper and lower chambers - separated bv
perforated plate through which solids are carried by added water
SUNDBERG H M 24.11.77-SW-013285
+P28 (25.06.79) A47k C05f-03/06

PHIP ★ D16 71584B/39 ★US 4168-201
Improving yeast cell yields - using as carbon source (m)ethanol from
which 2 methyl-1-propanol is removed
PHILLIPS PETROLEUM CO 29.08.77-US-828784
(18.09.79) C12c-11/14 C12g-03/12

Yeasts utilising MeOH and/or EtOH as a C source, but which find 2-methyl-1-propanol detrimental to their growth, are propagated in a fermenter contg. MeOH and/or EtOH purified by sepn. and removal of 2-methyl-1-propanol.

An increased yield of yeast cells which can be used as single cell proteins is obtd. The use of Candida, Hansenula, Torulopsis, Saccharomyces, Pichia, Debaryomyces, Lipomyces, Cryptococcus, Nematospora or Brettanomyces yeasts is pref. 29.8.77 as 828784 (4pp558)

MERI D16 82381Y/46 =US 4168-202
Antibacterial thiamycin analogues - obtd. by culturing Streptomyces
flavogriseus strains
MERCK & CO INC 28.04.76-US-680831 (08.07.77-US-813908)
*B02 (18.09.79) *NL7704-040 C12d-09/14*

Compound 890 A_2 is produced by cultivating the microorganism Streptomyces flavogriseus NRRL 8139 or 8140 in an aq. nutrient medium contg. assimilable sources of C, N and inorganic salts under submerged aerobic conditions to provide a mixt. of compound 890 A_2 and 890A_8. Compound 890 A_8 can also be obtd.

The cpds. are active against both Gram-positive and Gram-negative bacteria. They can be administered orally or parenterally at 2-600 (5-100) mg/kg daily. 8.7.77 as 813908 (19pp974)

BEAF D16 63141B/34 =US 4168-204
Stable freeze-dried Lowenstein-Jensen medium - which may be
reconstituted for use in tuberculosis testing
BEATRICE FOODS CO 27.05.77-US-801329 (11.04.72-US-243078)
*B04 C03 (D13) (18.09.79) *ZA7802-875 +C12k-01*

Prepn. of a dry, storage stable lowenstain-tensen medium which may be reconstituted with water to provide a medium suitable for use in tuberculosis testing, comprises mixing fresh whole eggs and lowenstein-tensen nutrients, inhibitors and salts having metal ions selected from Mg, P and/or K, freezing the mixt. at < 25°F, drying the mixt. at reduced pressure and at temps. wherein layers at the upper surface of the frozen mixt. do not exceed 130°F during the drying, and wherein sublimation of liq. in the frozen mixt. occurs until a moisture content of < 8% is obtd.

The medium is storage stable and, on reconstitution, gives equal accuracy to that of freshly prepd. medium.
27.5.77 as 801329 C.i.p. 4072570 (+20.2.76-US-659037)(6pp

BOEF D16 81194Y/46 =US 4168-205
Substrates compsn. or enzymatic activity evaluation - using redox
reaction, in the presence of ascorbate-oxidase
BOEHRINGER MANNHEIM GMBH 09.06.76-DT-625834
*B04 J04 R16 (18.09.79) *BE-854-407 G01n-33/16*

In determn. of substrates or enzyme activities in a test batch, using a redox reaction as a measuring reaction, the improvement comprises carrying out the process in the presence of ascorbate oxidase (I) obtd. from small marrow (curcurbita pepo medullosa). Pref. 0.002-100 (0.01-30) u (I) per ml test batch are used and (I) is used together with an enzyme forming H_2O_2.

Addn. of (I) eliminates interference due to ascorbic acid in the sample. Process is used for the determn. of glucose, detection of uric acid and determn of tyrosine or pyrocatechol. 28.4.77 as 792073 (8pp982)

PHIL- ★ D16 71585B/39 ★US 4168-206
Testing antifungal susceptibility of fungus - by using dried disks
impregnated with nutrient medium and antifungal agent, and
incubating with inoculated non-nutrient medium
PHILADELPHIA COL OS 02.05.77-US-792619
C03 (18.09.79) C12k-01/04

Method for testing the susceptibility of a fungus to anti-fungal agents comprises providing dried disks consisting of inert support material impregnated with nutrient medium and at least one anti-fungal agent.' The nutrient medium is capable of sustaining growth of the fungus and does not inactivate the anti-fungal agent. Each disk contains a known conc. of antifungal agent and is placed over an inoculated non-nutrient support medium. This is incubated for a time and temp. adequate to promote growth and fungus. The presence or absence of the fungus is determined after the incubation period.

Method for determining which antifungal agents are effective against a partic. fungus and quantifying the effective concn., is provided. Method may be used to test combinations of antifungal agents. Method is fast, easy and reliable. The disks can be stored for more than two months without becoming unstable. Determinations of susceptibility can be made after only 24 hrs. of incubation Determinations are both qualitative and quantitative.
2.5.77 as 792619 (6pp954)

STBR D16 74435A/42 =US 4168-250
Agglomerated fibrous ion-exchange cellulose - and use in
immobilising glucose-isomerase for converting glucose into fructose
STANDARD BRANDS INC 19.04.77-US-788728 (07.04.78-US-894289)
*A91 (A18 A97 D17) (18.09.79) *BE-865-900 C08l-01/02*

Agglomerated fibrous ion-exchange cellulose composite has the cellulose embedded in a hydrophobic polymer (pref. polystyrene), and relatively large portions of the cellulose are free to adsorb charged macromolecules.

The composite is made by dissolving the polystyrene in an organic solvent, mixing the soln. with fibrous ion-exchange cellulose, removing the solvent and forming agglomerates.

Used e.g. to adsorb and immobilise enzymes such as glucose isomerase. 7.4.78 as 894289 Div. ex 4110164 (5pp997)

CORR ★ D16 71615B/39 ★US 4168-262

Microbial protein contg. reduced amts. of nucleic acids - prepd. by derivatising cell homogenate followed by isoelectric pptn. of protein

CORNELL RES FOUNDATION 13.03.78-US-886304

(D13) (18.09.79) A23j-01/18

Protein contg. reduced amts. of nuclei acids is obtd. from the prods. of disruption of microbial cells by (a) derivatising the protein and nucleic acids in an aq. mixt. with a cyclic organic acid anhydride at pH 7.5; and (b) reducing the pH to isoelectrically ppte. the protein.

Pref. protein/nucleic acid mixt is obtd. from S cerevisiae, S. carlsbergensis, S. fragilis or C. utilis. The aq. suspension pref. contains 5-10% solids, Derivatisation is pref. carried out at pH 7.5-9.0. The anhydride is pref. succinic-, maleic-, dimethyl maleic- or citraconic anhydride. 13.3.78 as 886304 (5pp955)

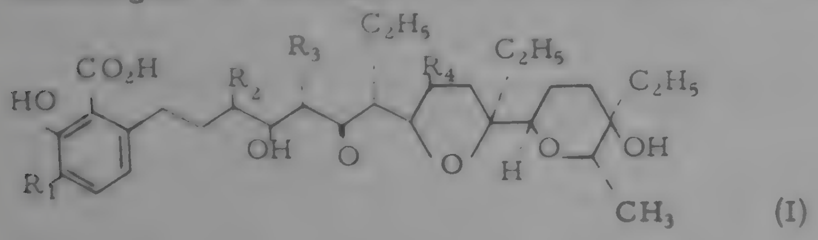
HOFF ★ D16 71621B/39 ★US 4168-272

Homologues of Lasalocid A - useful as antibiotics and coccidiostats, prepd. by fermentation of Streptomyces species

HOFFMANN-LA ROCHE INC 27.06.77-US-810123 (02.04.74-US-457296)

B03 C02 (18.09.79) C07d-309/06

Humologues of Lascolid A of formula (I) are new:-



(I)

(In (I) one of R_1, R_2, R_3 and R_4 is C_2H_5 and the others are CH_3 their salts are new:-

(I) are antibistus, and are useful as antibacterials and coccidiostats. The four cpds. have in nitro activites of 90, 180, 160 and 170 against Bacillus TA referenced to a activity of 100 for Lasalacid A.

To prepare (I), Slreptomyces X-537 is fermented und submerged aerobic conditions at pH about 6.5-75 in a m ium containing nitrogen and carbohydrate sources at abo 25-35°C for 4-6 days. 27.6.77 as 810123 (2.1.76-US-645970) (5pp476)

ALFF D16 46104W/28 =US 4168-3

Cephalosporin C recovered from aqueous media - by reaction w a sulphonyl chloride and extn. of the sulphonamide formed

ALFA FARMACEUTICI SPA 20.02.74-GB-007699

*B02 (18.09.79) *BE-825-680 C07d-501/08*

Recovery of cephalosporin C from an aq. medium comprises (a) treating the medium with the sulphonyl chlorid RSO_2Cl (I) (where R is p-tolyl, dimethyl phenyl, p-isopropyl phenyl, butylphenyl, β-naphthyl or p-nitrophenyl) to cement the cephesporin C to the corresp. sulphonami and (b) extracting the latter with water-immiscible solvent. The molar ratio of sulphonyl chloride for cephasporin C is > 1 and the reaction temp. at (a) is 0-40°C.

Pref. the aq. medium is a fermentation broth. (I) is pref. p-isopropylbenzene sulphonyl chloride. The solve is pref. ethylacetate, n-butanol, methylisobutylketone. The pH of the reaction medium is maintained at >7 with borax.

Method is simple and recovered prod. may be used directly to produce 7-ACA. 11.2.75 as 548927 (6pp393)

See Also

D13 DT 2811208 D13 DT 2909093 D13 J5 4105264
D15 J5 4106074

D17: SUGAR; STARCH

CORP ★ D17 69954B/39 ★BE -876-126

Refining moist whole wheat grain - to recover starch and animal feed, includes cleaning, macerating, wet-milling and sepg. into fractions

CPC INTERNATIONAL INC 11.05.78-US-904952

C03 G03 P41 (D13) (03.09.79) B02c C13l

Continuous refining of moist wheat comprises first cleaning the grains to remove foreign plant material, then macerating and wet-milling the macerated grains. The milled grain is sepd. into two fractions (A) contg. the germ, bran and smaller endosperm particles, and (B) contg. larger endosperm particles.

(B) is comminuted, combined with (A) then the mixt. macerated to give a starch grist slurry. A bran (fibre) fraction is sepd. washed and dried, the washing water being added to the fibre-free slurry which is then sepd. into starch-rich (S) and protein-rich (P) fractions.

(P) is conc. and dehydrated to give a dry fraction and a filtrate (F), Some at least of (F) is conc. then this concentrate combined with (P) and the sepd. fibre to give a moist animal feed prod. which can be dried.

High yields of top-quality starch (useful e.g. in adhesives, as thickener for foods and as source of glucose) are achieved and all other components are used in the animal feed. Only short maceration stages are needed and no dry milling is required. 9.5.79 as 876126 (22pp1251)

CUKR ★ D17 70030B/39 ★DL -136-455

Sugar beet juice filter - with raking arms in cylindrical tank with influent and effluent channels

CUKROWNIE BYDGOSKIE 29.06.78-DL-206380

(11.07.79) B01d-21/06 C13d-03

A filter with a moving filtering membrane for the sugar industry, esp. for the filtration of beet juice after the first saturation, consists of a cylindrical tank with a conical bottom on which deposit raking arms are revolved. An i fluent channel, skirting the outer rim, has alternate part tions at the top and bottom. A pipe in which static mixin paddles are inserted leads to the bottom centre of the tan where guide vanes precede the conically enlarged end wh faces a baffle plate.

This reduces the sugar losses in the sump and shorter the juice retention time in the purifying station so that th production process is improved qualitatively and quantitatively. 29.6.78 as 206380 (11pp39)

PURD ★ D17 70256B/39 ★DT 2908-99

Glucose prodn. from cellulosic materials - by hydrolysing materic free from hemi:cellulose enzyme and hydrolysis

PURDUE RESEARCH FOUNDATI 08.03.78-US-884479

E13 F01 (20.09.79) C12d-13/02 C13k-01/02

Glucose is obtd. by (i) breaking up the cellulose material to a pre-determined max. size; (ii) treating with dil. acic or alkali to extract hemi-cellulose; (iii) dissolving the cellulose materials, pref. in cadoxene to form a liq. mix of cellulose and cadoxene with lignin in solid form; (iv) precipitating cellulose; (v) hydrolysing and (vi) separating the glucose obtd. from solid lignin by filtration or centrif geing. Alternatively, solid lignin is separated first from the dissolved cellulose material, cellulose is pptd. from the residual material and hydrolysed to glucose.

Glucose can be obtd. in high yields from cellulosic waste, e.g. sawdust, straw, etc. (ii) Cadoxene requires no pre-drying of waste in dissolving cellulose. 6.3.79 as 908991 (38pp200)

See Also

D13 DS 2633659 D15 J7 9026105 D16 J5 4105063
D16 US 4168250 D21 J7 9026246

D18: SKINS; HIDES; LEATHER; TOBACCO

HAUN D18 41480W/25 =DS 2135-637
obacco moisturizing and additive treatment - by trajectory projection through spray zone into rotary drum conveyor
HAUNI-WERKE KORBER KG 16.07.71-DT-135637
*R26 +P15 (20.09.79) *GB1397-971 A24b-03/12*

A plant for altering the condition of tobacco receives the charge and feeds it almost completely sepd. into its isolated fragments to a mixing zone where the additive is delivered in the form of fine particles and is applied to the separated fragments of tobacco.

Uniformity in the rate of application of the additive is ensured, irrespective of variations in the flow of tobacco, by projecting the fragments from a point outside, into the mixing zone.

There the separate fragments follow different flight paths through the mixing zone, and the amt. of the additive is adjusted automatically to suit the measured value of the stream of tobacco. 16.7.71 as 135637 (7pp1045).

HENK D18 24351U/18 =DS 2151-409
Water-proofing of (imitation) leather - using salts of carboxylic acids and basic imidazocin and/or pyrimidin derivs
HENKEL KG AUF AKTIEN 15.10.71-DT-151409
*E13 F08 (20.09.79) *DT2151-409 C14c-09 D06n-03*

Leather or leather substitutes are made waterproof by impregnating with a soln. in an organic solvent of a salt of imidazolines made from diethylene triamine and erucacic and/or ω-phenylstearic acid. 15.10.71 as 151409 Add to 1273122 (4pp068).

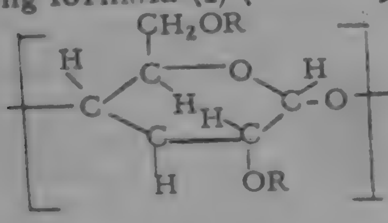
LIFF/ ★ D18 70126B/39 ★DT 2809-566
Fur trimming knife - with several inclined short blades in desired pattern
LIFFERS G 06.03.78-DT-809566
(20.09.79) C14b-15/10 C14b-19

A trimming knife for the fur industry is used to perform a regular pattern of 8-16 mm wide cuts so that a densely haired fur can be stretched by 30% and the pile lies better. The knife consists of several (eight) parallel blades with an inclined cutting edge, alternately offset, and with the required width.

This is used to pierce the fur so that strictly uniform cuts are produced. The results is a saving of time and a more uniform prod. 6.3.78 as 809566 (4pp39)

CELA ★ D18 70271B/39 ★DT 2909-496
Tobacco substitute contg. cellulose deriv. - together with tobacco alkaloid deriv. encapsulated in EVA copolymer and inorganic filler
CELANESE CORP 13.03.78-US-885915
A97 P15 (A18) (20.09.79) A24b-15 A24d-01/18

Smokable prod. contains a polysaccharide as combustible organic component, (A), a no. of combustible microcapsules enclosing tobacco alkaloid and a finely-divided inorganic filler (B). Most of (A) consists of cellulose derivs. and/or their salts contg. repeat anhydroglucose units having formula (I) (where ≥1 R is lower alkyl, lower carboxyalkyl and/or lower hydroxyalkyl, while balance of R are H atoms, and the average degree of substitution is 0.2-3). Wt. ratio (A):(B) is 15:85 to 85:15. Each microcapsule encloses an aq. soln. of water-soluble tobacco alkaloid deriv. in a sheath of crosslinked, previously partly hydrolysed C_2H_4-vinyl acetate copolymer contg. 60-88 mol.% C_2H_4.



(I)

Prods. can be used as tobacco substitutes. Safety problems are reduced by encapsulating the tobacco alkaloids. Smoke, taste and aroma come near to that of natural tobacco. 10.3.79 as 909496 (31pp200)

RETO D18 00099A/01 =GB 1553-326
Colouring tobacco substitute with tobacco dust - by adhering to the surface with an adhesive
REYNOLDS TOBACCO CO 30.08.76-US-718668
*P15 (26.09.79) *BE-858-202 A24b-15*

A smoking material comprises a cut, shredded or otherwise comminuted tobacco substit., contg. an adhesively applied coating of tobacco dust on the surface. The dust comprises a major proportion of tobacco particles of dia. <75 μ.

Pref. the tobacco dust comprises tobacco particles of dia. <10 μ, having a moisture content <3 wt.%. The tobacco substit. is based on cellulose, starch, a synthetic polymer or a cereal grain. The adhesive used comprises a dextrin, corn syrup, CMC, invert sugar or molasses.

The method of prepn. is both convenient and economical for imparting a tobacco-like colour to substit. materials, without giving rise to objectionable flavours upon smoking. 24.8.77 as 035523 (4pp931)

TOXF D18 57089A/32 =GB 1553-357
Tobacco smoke filters - comprising activated carbon fibres contg. nitrogen and obtd. by thermal treatment of PAN
TOHO BESLON KK (NITO-) 13.01.77-JA-001866
*A97 F04 P15 (A18 A35) (26.09.79) *DT2801-239 A24c-05/48 +B01d-53/02 C01b-31/08*

A tobacco smoke filter is prepd. from N-contg. activated carbon fibres, produced by the oxidn. of acrylonitrile polymeric fibres, then activation of the oxidised fibres.

Pref. the N-contg. fibres have a specific surface area of 100-1500 $m.^2/g.$ and an N-content of 2-15 wt.%. The filter comprises the N-contg. fibres and ≥1 fibrous material of pulp, acetate fibres, rayon fibres or polypropylene fibres. The filter comprises a paper produced from a pulp or a non-woven fabric blended with the N-contg. fibres.

The filter prepd. has a high ability to remove irritating substances and unpleasant bitter components from tobacco smoke. The filter has a high adsorption rate, is easy to produce and can easily be attached to tobacco prods. 11.1.78 as 000989 (11pp931)

SHIN/ D18 16188A/09 =GB 1553-490
Cigarette holder with filter tip - for conventional cigarettes has ring made of non flammable material on open tube end
SHIN S K 21.08.76-KS-002053
*P15 (26.09.79) *DT2735-909 A24f-13/18*

Cigarette holder comprises an elongate, hollow, tubular housing into one end of which is cigarette is insertable. A filter is in the other end of the housing. An annular ring is provided within one end of the housing and supports a non-flammable, extinguishing material (I) for extinguishing the lighted ash of a cigarette supported by the holder.

An inner collar is supported within one end which adheres to the outer dia. of a cigarette inserted into the holder. The collar acts as a locking abutment with the annular ring of (I), as a cigarette is withdrawn from the housing Pref. (I) is Al, mica or asbestos. The housing is pref. paper.

The holder removes the defects of smoking conventional cigarettes while providing that the remainder of a cigarette butt may be smoked repeatedly. 29.6.77 as 027206 (6pp393)

SCHM- D18 14981Y/09 =GB 1553-517
Animal hide fleshing plant - with two facing fleshing machines linked by a horizontal reversible belt conveyor
SCHMIDT A GMBH 14.08.75-OE-006372
*(26.09.79) *DT2636-356 C14b-01/02*

Animal hides are defleshedin appts. which has two defleshing machines arranged face to face, each machine having a feed roller and a cutter. A conveyor is arranged to transfer a hide from one machine to the other.. The conveyor is defined by an endless band mounted on the feed rollers. The band is driven in one direction by one roller and in the other direction in the other.

Each roller is pref. movable between open and closed

positions, the hide being fed to the cutter in the closed position. When one roller is in the open position, the other is closed. The hide need not be turned by the operator.
13.8.76 as 033708 (4pp1376)

MENI/ ★ D18 B/39 ★IT 1032-019
Cigarette filter with aromatising, cooling and filtering activity
MENICAGLI I 27.02.73-IT-048503
P15 (30.05.79) A24d

ANON ★ D18 71097B/39 ★RD -185-016
Testing filter cigarettes having ventilation section in filter region - using average of two test signals for comparison with reference signal, to reduce errors
ANONYMOUS 20.08.79-RD-185016
*P15 (10.09.79) A24d-00/**

Filter cigarettes provided with a ventilation section in the filter region have the section tested for desired effectiveness using testing signals of predetermined value. Sections are produced by perforating filter paper strip, placed about a filter rod common to two cigarettes prior to cutting into half and aligning of thus produced cigarettes, using needling, laser beams or electroperferators in a two-way manner.

To prevent errors due to single-way testing, the adjacent pairs of cigarettes are tested in separate devices and the two testing signals so generates are used to produce an average testing signal which is compared with a reference signal. The correctness of perforations can be tested in the course of mfr. by e.g. providing each filter paper strip with a testing device. (536)

MOEN- D18 20092T/13 =SU -639-459
Endless band cutting machine - with dressing tool adjustment to provide burr free cutting edge irrespective of cutting profile
MASCHINENFAB MOENUS (MOE -) 09.09.70-DT-044550
*A31 +P62 (25.12.78) *DT2044-550 C14b-01/14 +B26d-01/44*

Leather, rubber or plastics cutting machine has a horizontal idling roller co-operating with an articulated rubber roller opposite the nip of which is disposed a run of the cutting band, and a tool for dressing the profile of the cutting edge.

Tool has upper and lower guiding discs which are individually and jointly adjustable in the horizontal and vertical directions relative to the cutting edge and the setting devices and drives for the grinding discs are mounted on a common slideblock in turn mounted on a slide for horizontal displacement normal to the upper run of the endless band in a plane parallel to that run.
Trouchelle W., Bul. 47/25.12.78 3.8.71 as 689584 (4pp)

TOBA= ★ D18 71185B/39 ★SU -639-515
Processing freshly harvested tobacco leaves - by drying, fermenting in two stages at different temp. and humidity, sorting and packing
TOBACCO MAKHORKA 21.07.76-SU-393846
P15 (30.12.78) A24b-03/12

Tobacco leaves are dried, sorted, fermented and packed. This method is simplified by effecting the fermentation immediately after the drying, but before the sorting and packing.

The fermentation is performed in two stages. In the first stage, the leaves are kept in air having relative humidity of 80-90% at 40 °C for 1 h.; then the temp. is risen to 70-80 °C and the humidity is reduced to 60-75% over 0.5 hr. The latter conditions are maintained throughout the second stage for 5-9 h.

By this method, the duration of the process is reduced the cost is decreased. The quality of the prod. is improved, in particular its colour, scent and elasticity.
Petrenko A.G , Popova O.K., Petru A.I. et al. Bul. 48/30.12.78 21.7.76 as 393846 (2pp70)

APRE/ ★ D18 71337B/39 ★SU -639-943
Drying fur pelts etc. - including vacuum degreasing under specific conditions and using radiation and contact heat source
APRELSKAYA E G 20.05.75-SU-136020
(30.12.78) C14b-01/58

Fur pelts, sheepskins etc. are dried by (a) vacuum degreasing at 5-10 mm Hg. pressure and temp. 30-40 °C and (b) adding a drying agent.

The method is quick and results in a better quality pelt The drying step may be carried out by radiation or by contacting with a drying agent.
Aprelskaya E G., Valiallina A.A., Vasilev V.A. et al. Bul. 48/30.12.78 20.5.75 as 136020 (2pp314)

ULOC= ★ D18 71338B/39 ★SU -639-944
Semi-finished fur skin treatment unit - flexes the skin for adhesive o polymer bonding of additional hair in electrostatic field
UKR MIN LOCAL IND 04.04.75-SU-120069
A35 (A97) (30.12.78) C14b-15/12

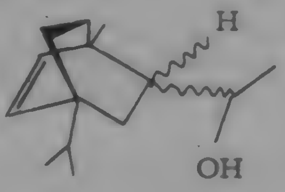
Wider range of semi-finished fur treatment at lower labou cost is ensured by bending over before bonding to expose the skin side. The bonding of additional har covering is carried out on the exposed skin together with the natural hair. The combing and bonding of the additional hair take place in the electrostatic field.

The bonding can be carried out with polymer granules subject to hf current or to ultrasonic action, and then the skin passes around a heated drum to which the hair is pressed by a conveyor belt. The drum is followed by a multi-section oven featuring zones at different temps.
Tkachenko A.V., and Lezhen I.S., Bul. 48/30.12.78 4.4.75 as 120069 (2pp89)

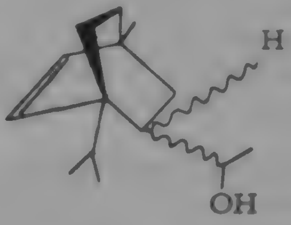
INFL ★ D18 71543B/39 ★US 4167-947
Modifying aroma and flavour of smoking compsns. - by adding bicyclo-(2.2.2.)-octene derivs.
INT FLAVORS & FRAGR INC 08.06.78-US-913696 (27.03.77-US-780685)
E15 P15 (18.09.79) A24b-03/12 A24d-01/18

The aroma and flavour of a smoking compsn. are modified by the addn. of ≥ 1 bicyclo [2.2.2] octene deriv. of formula (I) or (II) or a mixture of these, in the formulae the wavy lines representing exo and ends configurations of the ethanol moiety w.r.t. the -C=C- of the bicyclo [2.2.2] octene moiety.

The bicyclo [2.2.2] octene derivs. impart natural and/or sweet, oriental, spicy, woody and tobacco/hay-like notes to the smoking compsn., and are claimed in US 4128729.



(I)



(II)

8.6.78 as 913696 Div. ex 4128729 (18pp990)

FARB D18 67216A/38 =US 4168-240
Chromium tanning material and sodium sulphate deca:hydrate prepn. - by reduction and neutralisation of sodium bi:sulphate contaminated with chromium cpd.
BAYER AG 09.03.77-DT-710175
*E31 (E34) (18.09.79) *DT2710-175 C01g-37/02 C14c-03/06 +C01d-15/06 C14c-09*

A chromium-contg. material and Glauber's salt is prepd. from sodium bisulphate contaminated with chromium cpds. obtd. as a by-prod. from the mfr. of chromic acid from solid sodium dichromate and sulphuric acid.

The process comprises treated a 20-70% aq. sodium bisulphate soln. contg. chromium cpds. which is acid with sulphuric acid, with sulphur dioxide until all the chromium present is inthe form of chromium (III); sodium hydro-xide is then added to the reduced soln. to pH 4-5; sodium carbonate is then added to the soln. to pH 8-8.5, to obtain a ppte. of chromium (III) hydroxide; the ppte. is separated off, and the filtrate left evaporated to yield solid soidum sulphate.

The process facilitates the utilisation of both the chromium and sodium salt contents of the contaminated sodium bisulphate, former as a tanning agent. 16.2.78 as 878544 (3pp931)

See Also

D13 DS 2530227

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

NIL ★ D21 69929B/39 ★BE -874-977
odorant non-germicidal toilet soap tablet - contg. soap mixt. free
tty acid, electrolyte and specified deodorant power
UNILEVER NV 16.05.78-GB-019841 (20.03.78-GB-010969)
E19 (20.09.79) A61k C11d-09/44

he tablet comprises:- (i) 0.5-99.8% of a mixture of oaps, (ii) 0-15% of 6-18C straight chain free fatty acids, ii) 0.1-2.5% of an electrolyte and (iv) 0.1-10% of a eodorant compsn. having a deodorant power of 0.5-3.5 easured by the deodorant power test. The soap is more ffective than germicides in suppressing disagreeable body dours.

The deodorant power is pref. 0.9-3.5, esp. 1.1-3.5. he deodorant compsn. comprises 45-100% of active eodorants chosen from phenolic substances; essential ils, synthetic essences, extracts and resins; aldehydes nd ketones; and alcohols. 20.3.79 as 874977 (38pp597)

ANG/ ★ D21 69961B/39 ★BE -876-165
isual reminder directing attention esp. to dental hygiene - has e.g.
ppearance of tooth with switch timer and display
LANG P 10.05.79-BE-876165
P32 (03.09.79) A61c

device for improving the attention of the young to the hygiene of the cavities of the human body, has an appearance he sight of which produces a stimulus which triggers a eflex appropriate to the cavity.

The device may e.g. be a block resembling a human ooth with a recess contg. a timer and a switch. These are ssociated with a display of letters, figures, etc., together with a signal indicating the length of time for the brushing of the teeth. 10.5.79 as 876165 (6pp1014)

ORF/ ★ D21 70104B/39 ★DL -136-735
Oil soluble surfactants prodn. - by neutralising anionic surfactant
acids with amine(s), useful in cosmetics and pharmaceutical
compsns.
DORFEL K 06.03.78-DL-203976
B07 E19 (25.07.79) A61k-09/10 B01f-17/02 C07c-139/10 C07c-141

Prodn. of oil-soluble surfactants comprises neutralising sulphonated alkylbenzenes or sulphated alkanols, alkylpolyglycol ethers and/or alkylphenolpolyglycol ethers, opt. mixed with nonionic surfactants, with $\geq$1 amine.

Pref. surfactants are 10-13C linear alkyl benzene sulphonates; sulphated 10-22 (pref. 12-16)C opt. branched and/or unsatd. alcohols (or their addition prods. with 1-8, pref. 1.5-3, moles ethylene oxide), or sulphated 7-12C opt. branched alkyl-phenolpolyglycol ethers with 5-10 moles ethylene oxide.

Used esp. in pharmaceutical and cosmetic oil or cream compsns. These surfactants mix with natural or synthetic lipids, have good foaming power and are completely compatible with the skin. 6.3.78 as 203976 (7pp1251)

GOUP/ D21 82121R/44 =DS 2021-356
Mixing dental compounds
GOUPIL J J (GOU /) 02.05.69-FR-014008
*A37 B07 P32 P33 P34 +P31 Q32 Q34 (A96) (20.09.79) *NL7005-912 A61c-05/06 B65d-25/08 +B01f-11*

Container for mixing dental amalgams comprises two sections which fit together to enclose one or more components; the neck of the upper section is sealed with a thick disc, which is easily displaced with a plunger and above which is placed mercury.

The appts. is quickly assembled and the plunger is depressed to mix the components; the amalgamation is accelerated by shaking or rotating. Pref. the thickness of the disc is $\frac{1}{4}$ - $\frac{1}{3}$ its dia.; it is pref. produced from plastics, esp. polytetrafluoroethylene. 30.4.70 as 021356 Add to 1766334 (4pp047).

CIBA ★ D21 70249B/39 ★DT 2908-632
Ethanolamine salt of mono:alkyl maleate and styrene copolymer - prepd. by pearl polymerisation and used as cosmetic hair-setting soln.
CIBA GEIGY AG 10.03.78-CH-002648
A96 (A13 A14) (20.09.79) C08f-08/44 C08f-222/16

New water-, EtOH- and isopropanol-soluble copolymer salt (I) of (a) 1 mol. mono- 2-10C alkyl maleate and (b) 0.8-1 mol styrene is prepd. by (i) pearl polymerisation of components (a) and (b) in an aq. dispersion in the presence of a protective colloid and then (ii) neutralising 25-100 (60-100) % of free COOH gps. of copolymer obtd. with (c) an ethanolamine substd. by Me and opt. $HOCH_2$- in position 1 or 2.

(I) are used as cosmetic hair-setting agents, and can be used, e.g. as aerosol sprays, on human hair in vivo or on natural hair- or synthetic fibre wigs. The pearl polymers are odourless. Solns. of (I) in water, EtOH, and/or isopropanol are stable for >12 months. Flexible, continuous, non-oily, non-greasy, transparent films are formed, which can be washed out easily, yet retain hair-shape even at high R.H. 6.3.79 as 908632 (19pp200)

SHIS ★ D21 70301B/39 ★DT 2910-473
Gel compsn. for cosmetics - contains opt. organically modified montmorillonite, surfactant water system liq. crystal and organic solvent
SHISEIDO KK 17.03.78-JA-030803 (17.03.78-JA-030802)
(20.09.79) A61k-07

Gel compsn. contains an opt. organically modified clay mineral, (I), of montmorillonite series and a surfactant-water system liq. crystal, (II), combined with an organic solvent (III). A cosmetic compsn. consisting of a gel prepd. from (I), (II) and (III) is claimed.

Cosmetics include eye-lash paints, nail varnish and emulsion systems. (II) increases gelling capacity of (I). Stable viscosity can be achieved. By adding (II), organically modified (I) quantity in cosmetics can be reduced and organically non-modified (I) may be used as oily gelling agents and thickeners for organic solvents. 16.3.79 as 910473 (24pp200)

RENN- ★ D21 70311B/39 ★FR 2411-605
Slimming cosmetic compsns. applied to the skin - contg. specified plant extracts, gelling agent and excipient
CENT RENNES-MONTPA 19.12.77-FR-038197
(17.08.79) A61k-07

The compsn. comprises a mixture of Centella asiatica (I) extract, meadow-sweet (II) extract, ivy (III) extract and Laminaria (IV) extract together with a gelling agent and an appropriate excipient.

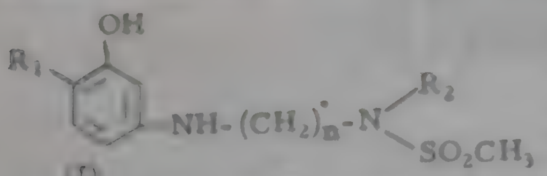
Pref. compsns. contain 1-5% of each of the above extracts and also NaCl, esp. 1-5%. The extracts are aqueous and/or alcoholic. (I) is pref. from water/propyleneglycol, (II) is from propyleneglycol, (III) from aqueous alcohol and (IV) is aq. The amt. of gelling agent is pref. 0.5-5% and is pref. Cellulinal (RTM) or Adipol (RTM).

The compsn. is applied to the skin once or more per day to areas of the body which require slimming in order to improve the figure, particularly female. It is easy to apply, pleasant and effective. 19.12.77 as 038197 (7pp).

OREA D21 04114A/03 =GB 1553-328
(N)-Mesylaminoalkyl amino alkyl phenols - used as colour couplers in oxidn. hair dyeing compsns.
L'OREAL SA 09.09.76-FR-027125
*E24 (26.09.79) *BE-856-628 A61k-07/13 C07c-143/82*

An N-substd. metaaminophenol of formula (I) is new, in which R_1 is 1-4C alkyl; R_2 is H or 1-4C alkyl; and n is 2-3. Pref. n is 2, and R_1 and R_2 are both Me.

(I) is used as a coupler in a compsn. for dyeing keratinic fibres contg. an aq. alkaline soln. of $\geq$1 oxidation base, where the oxidation base is $\geq$1 paraphenylenediam-



(I)

ine, or paraaminophenol. Pref. the coupler is 2-methyl-5-/N-(mesylaminoethyl)amino/-phenol or 2-methyl-S-/N-(mesyl, N'-methylaminoethyl)amino/-phenol.

The oxidation bases and the couplers chosen for the compsn. are harmless, and impart shades of good quality to the keratinic fibres, being esp. stable to light, to humid weather conditions, and to shampooing. 8.9.77 as 037584 (17pp931)

INOZ ★ D21 70719B/39 ★J5 4105-110
Ceramic shaped body prodn. - by kneading various ceramics and binders, laminating layers of mixts., and calcining
INOUE JAPAX RES INC 03.02.78-JA-010512
L02 P64 P73 (17.08.79) B28b-03 B32b-31/08 C04b-39/12

Method comprises kneading ≥1 powdery ceramic with a binder to obtain a kneaded substance, shaping the kneaded substance to a ceramic plate of desired size, extending the plate to obtain a ceramic tape of a first layer, kneading, shaping and extending a mixt. of powdery ceramic and binder of the same or different kind to obtain a ceramic tape of a second layer, obtaining a ceramic tape of the third layer from a mixt. of additive, powdery ceramic, and binder of the same or different kind, piling and pressing the three ceramic tapes, cutting the press-piled tape to a desired type, and calcining it to obtain a piled type ceramic shaped body.

Used for mfr. of artificial teeth. 3.2.78 as 010512 (5pp51)

LIOY ★ D21 70771B/39 ★J5 4105-190
Prodn. of cation-modified starch derivs. - by reacting starch (alkylene oxide deriv.) after pretreating with alkali, with glycidyl tri:alkyl ammonium salt
LION FAT & OIL KK 06.02.78-JA-012096
A11 (17.08.79) A61k-07 C08b-31

In the prodn. of cation modified starch deriv. by reacting starch of its alkylene oxide deriv. and a glycidyl trialkyl ammonium salt, the starch (deriv.) is pretreated with an organic alkali.

The starch may be any natural starch, e.g. potato, corn, wheat, rice, etc. Its deriv. is pref. ethylene or propylene oxide deriv. contg. 0.1-3 (esp. 0.1-2) moles per unit of anhydrous glucose. Inorganic alkali is e.g. Na-, K- or Li hydroxide, added as 0.05 to equiv. moles per unit of anhydrous glucose of the starch.

Pref. the pretreatment is effected at 40-80°C for 1-3 hrs. The availability of a cationation agent (i.e. the ammonium salt) is improved. Washing is easy and thus avoids pollution problems. The amt. of byproduced salts is decreased and the transparency of the prod. soln. is greatly improved. The prod. is useful as an additive to cosmetics, shampoos, other toiletries, etc. 6.2.78 as 012096 (6pp)

YAMA ★ D21 70793B/39 ★J5 4105-240
Dental anti-plaque agent - contains sugar alcohol fatty acid ester
YAMANOUCHI PHARM KK 03.02.78-JA-011095
E13 (18.08.79) A61k-07/16

The sugar alcohol fatty acid ester is specifically composed of sugar alcohol e.g. xylitol, sorbitol or mannitol and 8-24C fatty acid, partic. oleic, palmitic or stearic acids. Pref. the ester is combined at 0.2-20 wt.% with oral to base.

An anti-plaque agent of liq., solid or semi-solid form can be prepd. and can be combined in dentifrice, gargle, oral paste, oral spray, chewable tablet, chewing gum, bon-bon, etc. 3.2.78 as 011905 (5pp5)

NISW ★ D21 70917B/39 ★J5 4106-415
Partially esterified product, used in a cosmetic - esterified between pentaerythritol and satd. side chain like fatty acid
NISSHIN SEIYU KK 10 02.78-JA-013393
(21 08.79) A61k-07 C07c-69 33

A new partially esterified prod. of esterification of pentaerythritol and a saturated side-chain-like fatty acid contg. 8-20C, has ≥ 1 hydroxyl gp. per remaining molecule and is used in a cosmetic material.

The product has a high surface-active property and is safe against skin, so it is pref. as a surface-active age or an oil material for cosmetic use.

The reaction ratio varies with the kinds of pentaeryth tol, and pref. 1-5 mol. of satd. side-chain-type fatty ac (in this case, the average number of remaining hydroxyl gps. is 5-1) is employed relative to 1 mol. of dipentaerythritol, and 1-7 mol. of satd. side-chain type fatty acid (this case, the average number of the remaining hydroxy gps. is 7-1) is employed relative to 1 mol. of tripentaery ritol. 10.2.78 as 013393 (6pp75)

NIHS D21 64444A/36 = J7 9026-2
Shampoo contg. starch sugar and fatty acid ester(s) - is read soluble in water and has good foamability
NIPPON SURFACTANT KK 17.01.77-JA-004108
*E17 (D17 E13) (03.09.79) *J53088-807 A61k-07/06 C11d-01/6*

The shampoo is harmless and non-stimulative and can b preserved stably for long period. Starch sugar is pref. prod. obtd. by enzyme-hydrolysis of starch, composed glucose and its polymer of polymerisation degree <10). Fatty acid is pref. (un)satd. 4-24C fatty acid agreeably t the polymerisation degree of starch sugar, and esterifie with starch sugar to contain 30-80 wt.% of monoester.

In an example, the shampoo was composed of starch sugar-monolauric acid ester (polymerisation degree =2 esterification deg. = 12.5), 20 pts. wt., starch sugar 20 pts. wt.; polyoxyethylenesorbitan-monolaurate 2 pts. wt. water 58 pts. wt. 17.1.77 as 004108 C11d-1/66; A61k-7/ 06 (3.9.79) NIPPON SURFACTANT KK (3pp180) (J53088807)

STOM= ★ D21 71186B/39 ★SU -639-5
Denture porcelain teeth mfg. compsn. - contg. additional alumin lithium silicate, boric acid, barium chloride and titanium di:oxide increase strength
STOMATOLOGY RES INS 11.07.75-SU-155776
L02 P32 (30.12.78) A61c-09

The mixt. contains (in wt.%): fluorspar (I) 12-15, quartz (II) 7-10 and additional Li silicate (III) 10-15, boric acid (IV) 7-10, $BaCl_2$ 5-10, TiO_2 6-8, and Al_2O_3 (V) the rest.

The mixt. gives wear-resistant and mechanically strong teeth. The material is fired and fused prod. is fragmented.

Smirnov A.S., Inozemtseva A.A., Serova G.A. et al.
Bul. 48/30.12.78 11.7.75 as 155776 (2pp124)

STOM= ★ D21 71187B/39 ★SU -639-5
Biologically inert, metal-ceramic dentures prodn. - by hec treatment of cast metal frame, removal of oxide layer, degreasi and coating with ceramic material
STOMATOLOGY RES INS (DOCT=) 15.11.76-SU-416931
M14 P32 (30.12.78) A61c-13

Higher quality, biologically inert dentures made of ceramic on metal support are obtd. when the metal cast is heated for 10-15 min. at 1110-1200°C the oxide layer formed removed by sandblasting, the article degreased with alcohol, dried and coated with the ceramic layer.

The denture is cast from a Cr-Co steel, sandblasted, corrected to fit the patient's mould, and heated to 1110-1200°C for 10-15 min. This relieves the internal stress and volatilses the harmful components. Subsequent sandblasting to remove the oxide layer, degreasing and dryin yields a surface forming a strong bond with ceramic coating. Clinical tests confirm the superiority of the method
Kalamkarov Kh.A., Lobanov I.F., Karchenko S.V.,
Bul. 48/30.12.78 15.11.76 as 416931 (2pp124)

NAUM/ ★ D21 71298B/39 ★SU -639-87
Bis-n,n-hexa:methylene-urea insect repellent prepn. - b phosgenation of hexa:methylene-imine hydrochloride and treating N-chloroformyl deriv. with hexa:methylene-imine
NAUMOV YU A 15.06.77-SU-496398
E13 (D22) (30.12.78) C07c-127/15

Hexamethyleneimine hydrochloride (I) (1 mol) is converte to N,N'-bis-hexamethyleneurea (II) in the following stage (1) suspending in p-xylene under dry N_2 at 85-90°C; (2) adding an excess of $COCl_2$ gas to give a soln. of N-chloro formylhexamethyleneimine (III); (3) blowing out unreacted $COCl_2$ with N_2; (4) adding hexamethyleneimine (2.1 mols) at 60-65°C and keeping for 1 hr. at 60-65°C; (5) cooling and filtering off (I) (1 mol.); (6) distilling off xylene follo

by (II).
Recovered (I) is reused for the prepn. of (II). There no toxic effluent from the process.
umov Yu.A., Isakova A P., Kondrashkina G.S., Bul. /30.12.78 15.6.77 as 496398 (2pp1360)

ABE/ ★ D21 71306B/39 ★SU -639-881
xa:methylene amide of carbonic acid prepn. - by phosgenation hexa:methylene-imine in presence of aq. alkali and organic lvent, used as insect repellent
GABELEVA L P 19.04.77-SU-476989
B02 (30.12.78) C07d-295/16

examethylene amide of carbonic acid (I) is formed by the nown aq.-alkaline phosphogenation of hexamethylenimine) with the modification that the process is carried out in n organic solvent. The latter may be: n-hexane or cyclhexane (III), dioxane or β,β'dichloro-ethyl ether, or 1,2-ichloro-ethane or trichloro-ethylent. The ratio of the I) to the solvent should be equal 1:1,5-3.

The modified method offers the advantage of the incresed yield (< 96.9%) of (I) which find use as an active rinciple in prepns. for repelling blood-sucking insects.
abeleva L.P., Kozyuberda A.I., Vlasov G.M. et al. ul. 48/30.12.78 19.4.77 as 476989 (2pp48)

TOM= ★ D21 71425B/39 ★SU -640-738
tomatological prosthetic material - contains high density and low ensity polyethylene in specified ration, to improve strength
STOMATOLOGY RES INS (DORO=) 18.05.77-SU-477702
A96 P32 (10.01.79) A61c-09

The material contains high density polyethylene in the normal way and has been modified here to provide stronger, onger lasting prostheses. Thus it also contains low density polyethylene, in the following prefd. ratio: 45.0-50.0 wt.% high density polyethylene, and 55.0-50.0% wt. low density polyethylene.

This makes for accuracy and biological resistance, esp in dental applications.

The mix is extruded and formed into sheets of the required thickness. The material converts rapidly from plastic to rigid state and also adapts quickly to and retains surface micro-relief. The sheet is heated to a plastic state and then is moulded round the object etc.
Kalamkarov K.H., Kharchenko S.V., Pashinin B.P. et al. Bul. 1/5.1.79 18.5.77 as 477702 (2pp26)

AMCY ★ D21 71550B/39 ★US 4168-000
Direct dispensing suture package - with needle in folded label with e.g. polyethylene strand looped into smaller chamber of heat sealed transparent envelope
AMERICAN CYANAMID CO 30.11.77-US-855847 (22.10.76-US-734800)
A96 P34 (18.09.79) A61l-17/02

The package comprises a heat-sealed transparent envelope with a lable chamber and a bell-shaped chamber, the sides of the former being parallel and then converging to the narrower second chamber. A tearing notch is located at one side of the second chamber for tearing across it.

A textured hand-grip surface adjacent the second chamber sides is sized to prevent hand pressure on the chamber. The first chamber holds a label folded into two parts and retains a needled suture with the strand end looped into the second chamber and the needle laid on the label. The strand is pref. of catgut, nylon, Dacron, polyethylene or polypropylene. 30.11.77 as 855847 (6pp1358)

UNIL D21 32153T/20 =US 4168-144
Hair dyeing compsn - contg anionic and cationic detergents, and basic dyes
LEVER BROTHERS CO 06.11.70-GB-052910
*(D25) (18.09.79) *BE-774-863 A61k-07/13*

An aq. high foaming compsn. for dyeing hair comprises (i) sufficient amt. of basic dyestuff to impart colour, (ii) 1-10 wt.% of an anionic-cationic detergent complex having a motor ratio of amonic to cationic detergent of 65:35-35:65, (iii) 2-8 wt.% of nonionic surfactant and (iv) 1-10 wt.% isopropanol.

Pref. the anionic component of the complex is an Na or K soap, alkyl sulphonate or alkanyl sulphonate. The cationic component is pref. 8-18C alkyl trimethyl ammonium salt, di-quat-amine salt, ethoxifated quat ammonium sat in alkylpyridinium chloride. Pref. an aerosol propellant is included.

The compsn. has good intensity of dyeing, even in darker shades. It gives good coverage of hair contg. 15-25 grey. 14.7.75 as 595462 (+2.11.71, 28.11.73-US-195012 419557) (5pp964)

UNIL D21 66021Z/00 =US 4168-301
Dentifrice
LEVER BROTHERS CO 03.03.67-GB-010248
*(18.09.79) *BE-711-443 A61k-07/16*

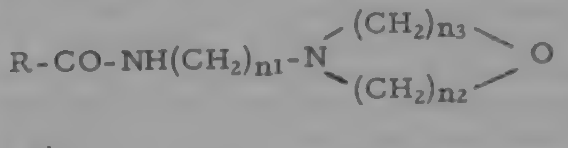
A dentifrice is prepd. contg. a total content of abrasive agent of ≥ 40wt.%. The abrasive agent comprises ≥ 30 wt.% of alpha-alumina trihydrate of particle size distribution such that ≥ 20 wt.% of the particles have a size > 20 microns.

Pref. the particles of the trihydrate have a normal gaussian distribution, and a wt. median dia. of 16-23 microns. ≥ 50 wt.% of the particles of trihydrate have a size > 10 microns, 25-60 wt.% have a size > 20 microns, 5-30 wt.% have a size > 30 microns, and ≤ 15 wt.% have a size > 40 microns.

The alpha-alumina trihydrate compsn. prepd. is capable of giving high cleaning with realtively low enamel abrasion. Other conventional ingredients can be included in the dentrifrice, which can be in the form of a paste.
9.7.74 as 632348 (+21.2.68, 7.8.70, 20.5.71, 19.3.73-US-707325, 062197, 145571, 342331) (5pp931)

RICD ★ D21 71642B/39 ★US 4168-302
Hair conditioning compsn. contg. cationic surfactants - which are not foam suppressants or eye irritants
RICHARDSON CO 30.03.78-US-891921 (29.03.76-US-671314)
E13 (18.09.79) A61k-07/06

Aq. hair conditioning compsns. contain an anionic surfactant and an effective amt. of a cationic surfactant (I) which is a salt of an innocuous anion and a cation derived from a cpd. of formula (I):-



(I)

(where R-CO- is a fatty acyl of 6-20C, and n_1, n_2 and n_3 are integers up to 3).

(I) are non-irritating to the eyes and do not impair the foaming properties of the anionic surfactant. 30.3.78 as 891921 (4pp955)

D22: BANDAGES; DRESSINGS

COLG ★ D22 69951B/39 ★BE -875-097
Absorbent pad for sanitary towel, disposable napkin, etc. - combines rapid absorption rate of peak flow with high retention capacity
COLGATE PALMOLIVE CO 27.03.78-US-890156
A96 P32 (16.07.79) A61f

A sanitary pad contains a composite, absorbent filling comprising a sheet of ripple cloth sandwiched between two layers of fluffy pulp. A sheet of cotton wool covers the outer face of each pulp layer. A waterproof film covers the outside of one only of the cotton wool sheets and the edges of the film are seamed to the edges of the second, cotton wool sheet which, in fact, forms the absorbent face of the pad. The foregoing, composite filling is enveloped in a sheet of unwoven, textile material.

The outer side of the pulp layer adjacent the absorbent face of the pad, is deeply channelled by crimping which powerfully compresses material in the bases of the channels. Each channel pref. has a depth equal to about four-fifths of the thickness of the pulp layer. The channels are pref. interconnected by grooves which may be shallower or just as deep as the channels.

Very high absorption rate to cope with peak discharge flow of liq. over short periods. This is achieved without sacrificing high retention capacity for liq. over long periods. 26.3.79 as 875097 (11pp448)

COLG ★ D22 69952B/39 ★BE -875-098

Mfg. absorbent pad for sanitary towel, disposable napkin, etc. - to give rapid absorption rate combined with high retention capacity for liq.

COLGATE PALMOLIVE CO 27.03.78-US-890160

A96 P32 (16.07.79) A61f

Mfr. of a sanitary pad with a composite, absorbent filling is claimed. The filling is made by superimposing longitudinal strips, on the bottom a cotton wool sheet, next a lower layer of fluffly pulp with deep channels in its underside, then a sheet of ripple cloth. The ripple cloth is covered with an upper layer of fluffy pulp which, in turn is overlaid with a top cotton wool sheet.

The ripple cloth and pulp layers are secured between the cotton wool sheets which are knurled together along their longitudinal edges. Pad lengths are cut from the composite filling and form stamper. The upper cotton wool sheet is covered with waterproof film and the filling enclosed in a sheet of unwoven textile material.

The prod. has a very high liq. absorption rate for peak discharges over short periods. This is combined with high retention capacity for liq. over long periods. 26.3.79 as 875098 (10pp448)

UNIC ★ D22 B/39 ★BR 7901-149

Food envelope and mfg. process

UNION CARBIDE CORP 28.02.78-US-882613

(11.09.79) A22c-13

LANG/ ★ D22 B/39 ★DK 7800-634

Composite product with varying porosity

LANGER E W 13.02.78-DK-000634

P32 (03.09.79) A61f

METH- D22 19353S/11 =DS 2042-738

Treatment of metal implants to hinder - tissue growth in implant

METHODIST HOSPITAL (MET -) 04.09.69-US-855392

*A15 P32 +P31 (A96) (20.09.79) *DT2042-738 A61f-01 +A61b-17/18*

Process of smoothing the surface(s) of surgical metal-implants uses a material suitable for implanting. Specifically, the material is a PTFE or a fluorinated EP copolymer which is mechanically pressed into the micropores present at the surface of the metal. The metal implant is rotated at a speed of 15-120 m/min. w.r.t. the polymer material whilst applying pressure for a sufficiently long time to force the polymer into the micro-pores.

The polymer thus applied amounts to ≥ 0.1% based on wt. of the metal implant which latter is suitably made of a Co-alloy and may be a screw used for fixing a person's bone. 28.8.70 as 042738 (4pp267).

ROTT/ D22 78831T/50 =DS 2225-267

Disinfectant compsn - contg paraformaldehyde and polyethylene glycol

ROTTA G (ROT /) 28.05.71-IT-025139

*A96 P34 (A25) (20.09.79) *DT2225-267 A61l-13/02*

Disinfectant mouldings with protracted antiseptic activity comprise a solid mixt. of HCHO and polyglycol, partic. paraformaldehyde, (1 pt. wt.), and PEG 400-4000 (pref. M_r =3700-4000). (1-2 pts. wt.). Perfumes which are inert to these cpds. may be present.

Prepn. of these compsns. comprises addn. of paraformaldehyde to fused PEG at 60°, stirring until the mixt. is homogeneous; the melt is then run into moulds or containers and allowed to cool.

The prods. are esp. useful as disinfectants in microphones and telephones. 24.5.72 as 225267 (5pp047).

CHEM ★ D22 70150B/39 ★DT 2810-398

Tetra:chloro-cyclo:butenone prodn. from hexa:chloro-cyclobutene - by heating with sulphuric acid and sulphur tri:oxide or phosphorus pent:oxide (NL 12.9.79)

CHEM WERKE HULS AG 10.03.78-DT-810398

B05 E15 (20.09.79) C07c-45 C07c-49/46

Prodn. of tetrachlorocyclobutenone (I) comprises reacting hexachlorocyclobutene (II), opt. mixed with a diluent, with anhydrous H_2SO_4 and either SO_3 or P_2O_5 at 30-140°C. The initial mole ratios used are (I) SO_3 = 0.67-10, H_2SO_4:SO_3 = 0.1-10; (II) P_2O_5=0.67-10 and H_2SO_4:P_2O_5 = 0.5-20. Pref. using SO_3 reaction is at 60-100°C and using P_2O_5 at 80-120°C. A suitable diluent is hexachloro-1,3-butadiene (III

(I) is a bactericide and intermediate for squaric acid and its esters, other 4-membered ring cpds. and linear po polychlorinated cpds. (I) can now be made from inexpensive, readily-available starting materials. 10.3.78 as 810398 (11pp1251)

SALK/ ★ D22 70288B/39 ★DT 2910-205

PVP-halogen complex prepn. as stable aq. soln. - by reaction in low boiling solvent which is displaced by warm water; used as antiseptics, germicides, bactericides etc.

SALKIN N 17.03.78-FR-007797

A96 C03 (A14) (20.09.79) A61k-33 C08f-08/22 C08l-39/06

Prodn. of a stable aq. soln. of a halogen (Cl, Br or esp. I and PVP complex is effected by dissolving halogen in the presence of PVP in a solvent (I), in which both constituents are soluble, which has a lower b. pt. than water and which forms no azeotrope with water. The soln. is heated so that the PVP reacts with the halogen, and then (I) is displaced by addn. of water at a temp. above the b. pt. of (I).

PVP-I is useful as an odourless, non-irritant (preoperative) antiseptic, whilst PVP-Br-I and PVP-Cl-I are useful as plasticisers, antiseptics, germicides and bactericides. The solns. are extremely and very rapidly effective against a wide spectrum of microorganisms, inefecting humans, animals and plants, including bacteria, viruses, fungi, spores, protozoa and yeasts, and can also be used against certain insects and nematodes. The process allows aq. solns. to be prepd. cheaply and easily. 15.3.79 as 910205 (10pp016)

MCCA/ D22 25568A/14 #GB 1553-282

Protective dressing allowing air to reach a wound - comprising set of stiff rods the ends of which rest on soft foam pads

MCCARTNEY J S 29.09.76-DT-643899 (28.04.75-US-572275)

*P32 (26.09.79) *DT2643-899 A61f-13*

Skin, e.g. on the foot or hand, is protected after burning by an article which has a resilient compressible support which contacts and is secured to skin near the skin to be protected; and a protecting cage connected to the support extending over and spaced from the area to be protected. The cage is relatively rigid, allows free air movement, and can withstand pressures. The cage and support absorb the pressures without contacting the area to be protected or affecting the blood supply.

Pref. the support is formed by a pad on each side of the area to be protected to which the cage is removably secured. 28.4.76 as 014401 (20pp1376)

JOHJ ★ D22 70356B/39 ★GB 2016-262

Disposable diaper with reinforced corners - and elastic regions around legs and/or waist or wearer (BR 21.8.79)

JOHNSON & JOHNSON 27.01.78-US-872860

P21 P32 (26.09.79) A41b-13/02 A61f-13/16

A disposable diaper comprises an outer, moisture-impervious backing layer, an absorbent batt, and a moisture-pervious facing layer. An elongated, elastic ribbon is secured along ≥1 margin of the diaper and provides an elastic region at a central portion of the margin and a relatively inelastic reinforced region in a corner of the diaper.

Pref. the elastic ribbon is a thin, thermoplastic film. It may be provided along the two parallel longitudinal margins of the diaper and is additionally provided at the centre of the two waist margins of the diaper.

The diaper provides a good fit when secured to an infant. The corner areas of the diaper are reinforced for enhanced securement of fastening tabs. 26.1.79 as 002909 (11pp295)

/ ★ D22 70357B/39 ★GB 2016-277
traction member securing tubular bandage - attached with
ssive and of high strength and low extensibility longitudinally
EES P B 02.05.79-GB-015319 (02.02.78-GB-004168)
04 P32 (26.09.79) A61f-05/04 A61f-13

attachment for securing a traction member to a pati-
s skin along the length of a limb, comprises a tubular
dage of extensible openwork material and with high
ength and low extensibility longitudinally. The bandage
held to the skin by adhesive and is fixed at one end to the
mber.

The bandage is pref. a warp-knitted tube and the ad-
sive may be applied to bandage or skin. The bandage is
ef. outwardly ribbed and has longitudinal pillar stitch
es to provide the low longitudinal extensibility and high
nsverse extensibility, and a tab or eyelet for attach-
nt to the member. 2.5.79 as 015319 (6pp1358)

RA ★ D22 70687B/39 ★J5 4104-687
tective materials for wounds - comprises a fibre block, film or
onge contg, thrombin
UNITIKA KK 01.02.78-JA-010655
A96 P34 (17.08.79) A61l-15/03

e material comprises a fibre block, film or sponge in
ich thrombin is coupled or attached to the structure.
e material facilitates the pptn. of fibrin at the wound
r a prolonged period of time.

In an example a taffeta of PET is dipped in a mixt. of
% aq. polyethylene imine soln. and 5 pts. methanol and
ft at room temp. for 30 mins. A methanol soln. of 5 wt.
dicyclohexylcarbodiimido of 2 pts. polyethylene imine
added to the mixt. and left at room temp. for 2 hrs.
he taffeta is washed in methanol and dried. The taffeta,
fter polyethylene imine pressing, is dipped in acetone
oln. cong. 4 wt.% methylvinylether maleic anhydride co-
olymer and left at room temp. for 2 hrs. The taffeta is
en dipped in a phsyiological saline soln. (human thrombin
00 unit/ml) and left at 4°C for 24 hrs. Over the taffeta
ith stabilised thrombin, a fibrongen soln. (human fibron
gen 1 wt.%) is coated and left at 37°C for 10 mins.
.2.78 as 010655(4pp129)

AW/ ★ D22 70422B/39 ★J5 4004-891
eodorising sheet for beds, shoes, bags etc. - is obtd. by sealing a
arrier, e.g. silica gel, supporting alpha-bromo:cinnamaldehyde
etween two sheets
IZAWA G 15.06.77-JA-070605
A97 E14 P34 (13.01.79) A61l-09/ B01d-53/16*

eodorising sheet is obtd. by placing a deodorising comps
n. comprising α-bromocinnamaldehyde adsorbed on a
arrier consisting of an adsorptive substance having a
reat number of capillaries (e.g. silica gel) between two
heets.

In an example, two sheets made from polyester and ray
-on fibres were prepd., between which 50 g of silica gel
on which was adsorbed α-bromocinnamaldehyde) per m^2
of sheet was uniformly dispersed and then the two sheets
were adhered at 130°C for 30 min. The prod. was imm-
ersed in a resin soln. and then dried and pressed. An ins
-ole was made from the sheet. The obtd. sheet is more
effective than activated carbon or zeolite. 15.6.77 as
070605(8pp96)

NAKA- ★ D22 70783B/39 ★J5 4105-226
Sterilising compsn. for food and cooking tools - contains sodium
lauryl benzenesulphonate and an organic and/or inorganic acid
NAKANOSUMISE KK 07.02.78-JA-011955
E12 (E17 E36) (18.08.79) A01n-09/02

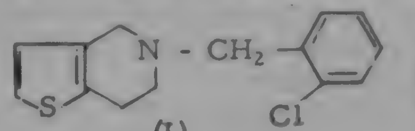
Sterilising compsn. contg. sodium laurylbenzenesulphonate (I) and ≥1 inorganic and/or organic acid. Pref. the acid is acetic acid, lactic acid, fumaric acid, tartaric acid, citric acid, gluconic acid, succinic acid, fumaric acid, hydrochloric acid, sulphuric acid or phosphoric acid.

The compsn. is used for sterilisation of food and cooking tools. The mixt. of (I) with organic acid and/or inorganic acid shows sterilising effect to both gram-positive and gram-negative bacteria. It is safe, odourless and can be readily removed after use.

The ratio of acid to (I) is 1/100-20 moles, pref. 1/10-10 moles, per mole of (I). In case of use, the compsn. is diluted 1 x 10- 1 x 10^5, pref. 1 x 10^2 - 1 x 10^4. Sterilisation is carried out by dipping the prod. to be sterilised in the aq. soln. or spraying the aq. soln. to the prod. 7.2.78 as 011955 (5pp108)

SOPH ★ D22 70791B/39 ★J5 4105-236
Thrombosis-inhibiting compsn. for substd. artificial blood vessel - contains 5-(2-chlorobenzyl)-4,5,6,7-tetra:hydro thieno (3,2-c)-pyridine and/or its adduct salt
SOPHARMA SA 06.02.78-JA-012180
B02 (18.08.79) A61k-31/43 C07d-495/04

Thrombosis-inhibiting compsn. for substd. artificial blood vessel contains 5-(2-chlorobenzyl)-4,5,6,7-tetrahydro-thieno (3,2-C)-pyridine and/or its prod. salt, artificial compsn. contains 5-(2-chlorobenzyl)-4,5,6,7-tetrahydro-thieno(3,2-c)-pyridine of formula (I) and/or its adduct salt as active component. Pref. the salt is the hydrochloride.



(I)

Tubular artificial blood vessel is used for connecting an artificial kidney with a vein and an artery as a means of feeding a blood soln. to the artificial kidney. 6.2.78 as 012180 (4pp15)

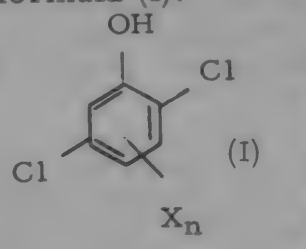
NAIG ★ D22 70902B/39 ★J5 4106-308
Marking ink used as sterilisation indicator - contg. Prussian blue, alkali-resisting pigment, weakly alkaline alkali metal salt and a resin
NAIGAI INK SEIZO KK 08.02.78-JA-013977
A97 E24 G02 (21.08.79) C09d-11

A marking ink compsn. for sterilisation comprises Prussian blue, alkali-resisting pigment (e.g. Pigment Green B Hansa Yellow, Phthalocyanine Green, etc.) ≥1 weakly alkaline metal salt (e.g. carbonate, bicarbonate, phosphate etc. of K or Na) and a resin (e.g. petroleum resin, phenol resin, maleic acid resin, etc.) as essential components, and the wt. ratio of the alkali metal salt to Prussian blue is 1:6 to 3:4.

The marking ink is discoloured by wet heat sterilizing treatment. The sterilisation mark by the ink is printed onto the surface or the package of object to be sterilised, and the mark is discoloured or coloured by sterilising treatment to ensure the sterilisation of the project. 8.2.78 as 013977 (5pp50)

NIPC D22 62397A/35 =J7 9026-254
Adhesive for use e.g. in plywood prodn. - contains 2,5-di:chlorophenol cpd. as bactericide, fungicide and insecticide
NIPPON CHEM IND KK 24.12.76-JA-155094
*C03 E14 F09 (03.09.79) *J53084-038 C09j-03 +A01n-09/26 C08k-05/13*

Adhesive compsn. contain 1-10 pts. wt. wrt 100 pts. wt. adhesive on a solids basis, of a phenol and/or its salt of formula (I):



(I)

The adhesives are e.g urea resin, melamine resin, phenol resin, resorcine resin, VA resin, epoxy, casein, glues, starch, soy-bean glue, water-soluble alkali silicate, etc. Salts of (I) are e.g. salts with alkaline earth metals, ammonia, amines, and lower alkanolamines (I) are partic. effective against bacteria, fungi and insects, have improved penetration into the wood.

The adhesive compsns. being safer in terms of acute oral toxicity and fish toxicity, have improved protection against bacteria, fungi and insects, and can be used e.g. for prodn. of plywood at 300-400 g/m^2. 24.12.76 as 155094 C09j-3/00; A01n-9/26; C08k-5/13 (3.9.79) NIPPON CHEM. IND. KK (4pp) (J53084038)

MEDO= ★ D22 71191B/39 ★SU -639-553
Sterilisation of medical equipment - with increased temp. uniformity by intermittent steam feed and steam and air mixt. removal from capillaries of material
MEDOBORUDOVANIE 27.01.76-SU-321005
P34 (30.12.78) A61l-01

The process comprises feed into a sterilising chamber of steam under pressure to remove the air, heating of the materials, and drying. In order to reduce the sterilising time by lowering the temp. differences in the material,

the steam is fed continuously with simultaneous periodic evacuation of the steam-air mixt. to partly reduce the pressure in the chamber.
Tsibikov V.B., Frosin V.N., Polyakova L.G., et al.
Bul. 48/30.12.78 27.1.76 as 321005 (2pp132)

MEDO= ★ D22 71192B/39 ★SU -639-554
Sterilisation of medical materials - with humidity and power consumption reduced by pulsed drying through drawing/off water vapour and feeding heated sterile medium into chamber
MEDOBORUDOVANIE 22.03.77-SU-465533
P34 (30.12.78) A611-01

The process comprises removal of air from a chamber, heating the materials with water vapour, and drying after holding. In order to improve performance, the drying is carried out under pulsating pressure-redn. conditions through periodic withdrawal of the vapour from the chamber and feed of heated sterile medium to raise the pressure to a level not exceeding atmospheric.:
Tsibikov V.B., Pershin N.S., Polyakova L.G., Bul. 48/30.12.78 22.3.77 as 465533 (2pp132)

MEDO= ★ D22 71193B/39 ★SU -639-555
Disinfection chamber for medical establishments - has door which opens to become parallel with the side wall of the chamber
MEDOBORUDOVANIE 11.08.77-SU-517128
P34 (30.12.78) A611-03

The chamber comprises a casing and a door mounted on rotating levers. In order to save space, the levers are fixed at one end to the top and bottom ends of the free side of the door and at the other end to the centre of the casing horizontal walls, the door being additionally fixed to the casing via a pin entering a longitudinal groove in the door, which also has cams on the same side, engaging arms on the casing.
Nazarov I.K., Yurkevich Yu.P., Bul. 48/30.12.78
11.8.78 517128 (2pp132)

KHAB= ★ D22 71254B/39 ★SU -639-705
Protective compsn. for wooden railway sleepers - comprises mixt. of creosote and transformer oil to increase electrical resistance
KHABAROVSK RAIL ENG 11.02.77-SU-451350
C03 F09 P63 (16.01.79) B27k-03/50

Compsn. comprises (by wt.): 60-90% coal-tar creosote and 10-40% transformer oil.

The inclusion of the latter improves the hydrophobising props. of the treatment and also improves the electrical insulation.

In a typical method, sleepers are impregnated by autoclaving at 10 atm. pressure and temp. 90°C for 180 mins.
Smolnkova R.F., Ovcharova T.I., Bul. 48/30.12.78
11.2.77 as 451350 (2pp314)

DOCT= ★ D22 71417B/39 ★SU -640-725
Synthetic bone for transplantation prepn. - moulded from bone powder in ultrasonic vibration field, using additives
DOCTOR RETRAINING 27.07.73-SU-953519
(10.01.79) A01n-01

Prepn. of synthetic bone of any desired configuration is based on grinding human bone to 1 x 1 mm^3 granules and then adding liquid adhesive and moulding under ultrasonic vibns. of freq. 20-50 kH for 2-3 mins. The original bone is conserved by usual methods.

The method is effective, simple and allows stocking of bone.
Polyakov V.A., Chemyanov G.G., Bul. 15/5.1.79
27.7.73 as 953519 (2pp114)

KHLA= ★ D22 71426B/39 ★SU -640-
Industrial working area air cleaning - by introducing odoriser
neutraliser, together with machine cooling emulsion
KHARK LABOUR HYGIEN 28.03.75-SU-119353
P34 (05.01.79) A611-09/02

The method is based on the introduction of an odoriser
chemical neutralisers. For more effective neutralisin
of toxic substances around cutting machines, esp. those
using cooling emulsions, the odoriser compsn. is intro-
duced into the air along with the emulsion in amts. of 0.
0.3 g per litre of the emulsion. The neutralising subst
ces make up for 10-45 % wt. of the compsn.
Dynnik V.I., Lesyuis A.A., Protsenko V.A. et al. Bul
1/5.1.79 28.3.75 as 119353 (2pp26)

PREN/ ★ D22 71523B/39 ★SW 7713-
Equipment for fixing medical samples in formalin soln. - using
spiked base plate in a container in modular form
PRENE O G E P 22.11.77-SW-013179
J04 R16 (25.06.79) G01n-01/28

MCDO/ ★ D22 71624B/39 ★US 4168-
Oil-base paint extender and burn emollient - obtd. from linseed
and hot aq. boric acid soln.
MCDONALD J G 29.09.77-US-838018
G02 (D23) (18.09.79) C07c-53 C07c-57 C07c-59

Linseed oil and boric acid are reacted by dissolving the acid in boiling water, combining the obtd. soln. with the oil maintained at 260-340°F., allowing the mixt. to cool and recovering the pptd. crystals. The wt. ratio of oil to water to acid is 6:6:1-12:12:1.

The reaction prod. is an effective emollient for treat
ment of skin burns and an oil-base paint extender. Whe
1oz. the prod. is added to a gallon of oil-base paint, the
paint is compatible with an additional gallon of water. T
extended paint gives good coverage while retaining colou
brilliance even under adverse weather conditions.
29.9.77 as 838018 (3pp558)

LEIT D22 11223Y/07 =US 4168-3
Coating metallic and nonmetallic prostheses with bioacti
substances - by coating the prosthesis with an enamel laye
incorporating the bioactive substances whilst it is viscous a
hardening
LEITZ WETZLAR E GMB 18.10.75-DT-546824
*M13 P32 + P42 (18.09.79) *BE-847-004 A61f-01/02*

Metallic or non-metallic prosthesis working pieces are provided with a coating of a bio-active material in a process not requiring high temp. treatment of the bio-active
material. The process comprises providing the prosthesis working piece with ≥1 inorganic enamel(-like) car
ier layer which is compatible with the body; the carrier layer is then converted into a viscous state.

The bio-active material particles are then incorporat
into the viscous carrier layer to form a coating layer comprising a multitude of areas of bio-active material ≥
1 partially embedded into the carrier layer; the carrier layer is then solidified.

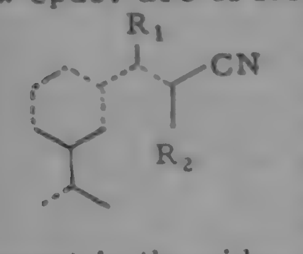
The prosthesis parts formed have a satisfactory adhesive strength and coefficient of expansion, are free of pores, are highly corrosion resistant, and grow intimate
and firmly together with the bone tissue without using bon
cement. 18.10.76 as 733313 (4pp934)

See Also

D13 US 4168314 D21 SU 639870 D25 SU 640638

D23: OILS; FATS; WAXES

LA ★ D23 69926B/39 ★BE -874-963
rile cpds. with a 1-methyl-4 isopropyl:cyclohexane carbor sleton - are useful perfume ingredients, e.g. for soap, cosmetics d household goods
POLAK'S FRUTAL WORKS INC 20.03.78-GB-010938
E15 (D21 D25) (20.09.79) A61k-07/46 C07c-121/48
ew cpds. are of formula (I)



(in which R_1 and R_2 are H or 1-6C alkyl, with a total number of C atoms in $R_1 + R_2 \ngtr 6$; and the dotted lines may be single or double C-C bonds, provided that when double bonds are present, $\ngtr$1 double bond is present in the 6-ring and $\ngtr$1 double bond is resent in the side chain contg. the CN gp.).

(I) have good chemical stability and resistance to dis-olouration, and are useful perfume components for use .g. in detergents, soaps, cosmetics, shampoo, talcum owder, household prods., etc. (I) is e.g. 3-(1-methyl--isopropylcyclohexyl-2)acrylonitrile. 20.3.79 as 874963 F1) (20pp513)

OCH- D23 62118A/35 =DS 2806-182
Multicoloured candle cast in one mould - using cores of successively lecreasing sizes as inner moulds
FA KOCH P 16.02.77-OE-001047
*(20.09.79) *DT2806-182 C11c-05*
A technique for the production of multi-coloured candles in moulds in which former bodies are set whilst the space left free is filled with molten wax of different colours, eliminates the waste of time and the frequent damaging of the candles occurring in other methods.

The former bodies, of different sizes, are inserted one after the other in the cavity of the mould, and in each case, the available space is filled with molten wax before the next former body is inserted.

When the wax has set, the former body is extracted and the next former is put into the cavity left behind; the space between the already cast candle and the new former being filled with wax of a different colour. 14.2.78 as 806182 (4pp1045).

HENK D23 00233A/01 =GB 1553-487
Methyl-alkyl-alkanoic acid ester perfumes - partic. methyl-ethyl-hexanoates (NL 13.12.77)
HENKEL KG AUF AKTIEN 11.06.76-DT-626142
*E17 (26.09.79) *DT2626-142 A61k-07/46 C07c-69/24 +A61k 31/22*
A perfume compsn. comprises an aliphatic 2-methyl-2-alkyl-alkane acid ester of formula $R_3-CH_2-CH_2-CR_2(CH_3)-COOR_1$ (I) and a carrier or diluent. In (I), R_1 is (un)satd., (un)branched 1-5C aliphatic hydrocarbyl; and R_2 and R_3 are each 1-4C alkyl. A specific (I) is the methyl, ethyl, allyl or propargyl ester of 2-methyl-2-ethyl-hexane acid.

(I) is used to impart a fragrant odour to washing and cleaning compsns., disinfectants, or textile treating compsns. 10.6.77 as 024288 (5pp964)

SHIE ★ D23 70384B/39 ★GB 2016-449
Cis-alkyl cyclohexanol prodn. from alkylphenol - by hydrogenation over ruthenium on alumina; used as intermediates for perfumes and pharmaceuticals
SHINETSU CHEM IND KK (SANK-) 13.03.78-JA-028524
B05 E15 (26.09.79) C07c-35/08
Prodn. of cis-(1-4C)alkylcyclohexanols (I) comprises hydrogenating the corresp. alkylphenol (II) in presence of a Ru-on-alumina catalyst at H_2 pressure > 1 atmos. Pref. the catalyst contains 0.1-20wt.% Ru and reaction is at 40-200°C and $\ngtr$5kg./cm^2. (II) is opt. diluted, and catalyst is pref. 0.01-1wt.%, as Ru, on (II). The carrier pref. has specific surface 100-300 m^2/g. and particle size $<$100 mesh.

(I) are intermediates for perfumes, medicines and other organic chemicals. cis-(I) are esp. useful as perfume intermediates e.g. for 4-tert. butycyclohexyl acetate which has an excellent orris-like fragrance. Selectivity for cis-isomer is around 75% even after repeated use of the catalyst (which requires no special reactivation) and (I) can be used without further purificn. 7.3.79 as 907967. (5pp1251)

TAKS ★ D23 70567B/39 ★J5 4103-853
5-Isopropyl-bi:cyclo(3,1,0)hexane derivs. prepn. - useful for synthesis of perfumes
TAKASAGO PERFUMERY KK 31.01.78-JA-009611
E15 (15.08.79) C07c-49/27 C07d-301/20 C07d-303/04
Prepn. of 5-isopropylibicycl^{o} (3,1,0) hexan-2-one comprises reacting 3-isopropyl-2-cyclopentenone with an equimolar amt. of dimethyloxosulphonium methylide in the presence of a non-protonic solvent.

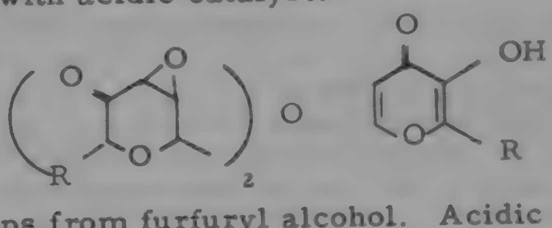
Dimethyloxosulphonium cpd. is e.g. that obtd. by allowing trimethyloxosulphonium halide to react with NaH in a non-protonic solvent e.g. dimethylsulphoxide, DMF, dioxane or THF.

Prods. are useful for synthesis of perfumes. For example, when the prod. is reacted with methyl magnesium halide, sabinene hydrate (cis, trans mixt. principally contg. cis-cpd) is obtd. and when it is allowed to react with dimethyloxosulphonium methylide, sabinene oxide can be obtd. 31.1.78 as 009611(4pp75)

TAKS ★ D23 70569B/39 ★J5 4103-856
9-Oxo-isolongifolene prodn. - by oxidising longifolene and/or isolongifolene with oxygen (-contg. gas) in aprotic polar solvent
TAKASAGO PERFUMERY KK 03.02.78-JA-010415
E17 (15.08.79) C07c-45/02 C07c-49/48
Prepn. of 9-oxoisolongifolene (I) comprises oxidising longifolene and/or isolongifolene using oxygen or an oxygen-contg. gas in a non-protonic polar solvent under heating. The solvent is pref. DMSO, DMF or hexamethyl phosphoramide. Reaction is at 110-130°C.

The end-prod. can be led to a satd. isolongifolene ketone cpd. which is of high value as a perfume. Oxidn. can be with oxygen in the air, and the solvent can be recovered and used repeatedly, without forming industrial waste which possibly causes environmental pollution. High yields are obtd. with high selectivity. 3.2.78 as 010415 (2pp75)

SAKB D23 20776A/11 =J7 9026-548
(3)-Hydroxy-(4H)-pyranone-(4) flavouring agents prepn. - by contacting novel (2,2')-bis(3,4-epoxy-5 oxotetrahydropyran) ether cpds. with acidic catalyst, e.g. sulphuric acid
OTSUKA KAGAKU YAKUHIN 16.07.76-JA-085395
*E13 (04.09.79) *J53012-866 C07d-309/40*
3-Hydroxy-4H-pyran-4-one derivs. (II) are prepd. by contacting 2,2'-bis(3,4-epoxy-5-oxotetrahydropyran) ethers (I) with acidic catalyst:



In the formulae, R is H or straight or branched 1-6C alkyl. Starting materials (I) are novel and can be prepd. in several steps from furfuryl alcohol. Acidic catalyst may be inorg. protonic acid (e.g. sulphuric or hydrochloric acid), carboxylic acid (e.g. formic, acetic or propionic acid), sulphonic acid (e.g. methanesulphonic or benzenesulphonic acid) or Lewis acid (e.g. $AlCl_3$, $ZnCl_2$. Products (II), useful as flavouring agents, are prepd. economically in better yields. 16.7.76 as 085395 C07d-309/40 (4.9.79) OTSUKA KAGAKU YAKUHIN (4pp104) (J53012866)

ESSE= ★ D23 71326B/39 ★SU -639-923
Extraction of ethereal oils from rose petals - includes fermentation in potassium sulphate soln., and hydrolysis in dil. sulphuric acid for high yield
ESSENTIAL OILS CULT 06.01.77-SU-441311
(30.12.78) C11b-09/02
Higher quality ethereal oils are extracted from rose petals more cheaply and efficiently by fermenting the latter in a 3.5-7% soln. of K_2SO_4 (I), distilling the released oils, treating the distillation residue with H_2SO_4 (II) of 2.5-10%

tinal strength, steam-distilling the oils and neutralising the residue with alkali or ammonia to obtain e.g. a fertiliser.
Bugorskii P.S., Bobrakov E.I., Melnikov V.N. et al.
Bul. 48/30.12.78 6.1.77 as 441311 (2pp124)

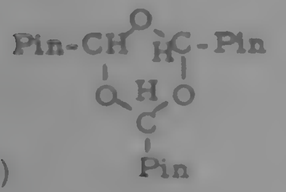
FRIT- ★ D23 71609B/39 ★US 4168-248
Modified perfume compsns. - contg. specified alcohol(s) or their ester(s)
FRITZSCHE DODGE & O 23.02.78-US-880580 (23.06.66-US-559708)
E19 (18.09.79) A61k-07/46 C11b-09

Perfume compsns. contains ≥ 9% of a perfume component and > 1% of ≥ 1 of 3-methylnonan-3-ol, 3-methyl-1-nonen-3-ol; 3-methylnonan-1-ol. 3-methyl-2-nonen-1-ol and their esters with 1-7C satd. monocarboxylic acids, monounsatd. 3-7C monocarboxylic acids, cyclopentane or cyclohexane carboxylic acids or salicyclic, cinnamic or toluic acids.

Pref. the alcohols or esters form 5-85% of the compsn. the alcohols and esters enhance and modify perfume compsns. to which they are added. 23.2.78 as 880580 (+6.8.78, 1.6.70, 13.11.72-US-750459;042495;305793) (9pp955)

BADI D23 38269X/21 =US 4168-270
Tipinyl-trioxan prepn. from 3-formyl-pinan enantiomer mixt. - by acid trimerisation and re-decompsn. to pure enantiomers (BE040576)
BASF AG 07.11.74-DT-452804
*E13 (18.09.79) *DT2452-804 C07d-323/04*

A tripinyltrioxane of general formula (I) is prepd., in which the Pin gps. are either dextrorotatory (+) or laevorotatory (-) pinyl gps. (I) is prepd. by the treatment of an enantiomeric mixt. of (+)-3-formylpinane and (-)-3-formylpinane with an acid in an organic solvent and the fractional pptn. of the trimeric cpd. (I). (I) can then be redissocaited into the pure enantiomers of 3-formylpinane with a catalystic amt. of acid.

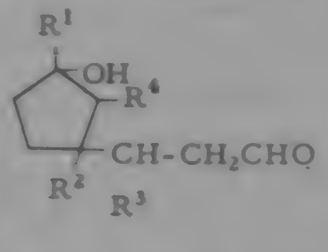

(I)

Pref. the solvents used are ethyl-, butyl-, or isopropyl acetate, methyl propionate, isobutyl formate, dimethyl malonate, dimethyl succinate, diethyl-, methyl isopropyl- or methyl n-propyl ketone, or di-n-butyl- or diisopropyl ether. Acids such as oxalic acid or chloroacetic acids are used in the trimerisation process.

The pure isomers of 3-formylpinane are valuable as perfumes. In the process, the resolution of the racemat is economical. 31.10.75 as 627611 (3pp931)

SHEL D23 42515A/24 #US 4168-2
1,2-Di:alkyl-3-formyl:alkyl-1-cyclopentanol cpds. - useful perfumes (NL 6.6.78)
SHELL OIL CO 03.12.76-GB-050505 (27.12.77-US-864561)
*E15 (18.09.79) *DT2753-644 C07c-47/30*

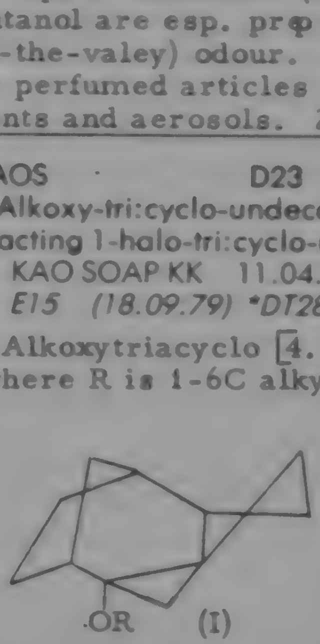
A cyclopentane deriv. of formula (I) is prepd., where R^1 and R^4 are each 1-4C alkyl, and R^2 and R^3 are each H or 1-4C alkyl. Pref. one of R^2 or R^3 is alkyl, and the other is H. (I) is prepd. by hydroformylatin an olefin in the presence of a m -al carbonyl catalyst such as a rhodium carbonyl complex. The process is carried out at 50-200 °C at 200 atmos. of carbon mon -xide and H_2. An organic solvent such as an aliphatic, cycloaliphatic or aromatic hydrocarbon is used.


(I)

Cpds. such as 3-(2,3-dimethyl-3-hydroxycyclopentyl) butanol are esp. prepd. having a fragment muguet (lily-of-the-valey) odour. Such cpds. are used in perfumes or perfumed articles such as soaps, deodorants, detergents and aerosols. 27.12.77 as 864561 (2pp934)

KAOS D23 76804A/43 =US 4168-38
1-Alkoxy-tri:cyclo-undecane perfume component - prepd. b reacting 1-halo-tri:cyclo-undecane in presence of silver oxide
KAO SOAP KK 11.04.77-JA-040340
*E15 (18.09.79) *DT2815-392 C07c-43/18*

1-Alkoxytriacyclo [4.3.1.12,5] coidecanes of formula (I) (where R is 1-6C alkyl or 5-6C cycloalkyl) are novel and useful in perfume and flavour compsns. Pref. R is CH_3, C_2H_5 or butyl.


(I)

Prepn. of (I) comprises reacting corresp. 1-halotricyclo /4.3.2,1 2,5/ undecanes with alcohols ROH at 50-100 °C for 15 mins t. 5 hours. 6.4.78 as 893827 (4pp393)

See Also

D13 DS 2530227 D22 US 4168275

D24: SOAP; SOAP DETERGENTS

AGEN ★ D24 70923B/39 ★J5 4106-425
Fatty acids with alpha-sulphur contg. substit. - and their soaps, which have improved hard water resistance
AGENCY OF IND SCI TECH 06.02.78-JA-012065
A97 E12 (E17) (21.08.79) C07c-147/02 C07c-149/20 C11d-09

Fatty acids having a sulphur substit, at their α-position of formula (I) and their salts are new RC(-X)HCOOH (I) (where R is alkyl, X is alkylmercapto, alkylsulphinyl or alkulsulphonyl).

Fatty acid soaps comprising the salts of (I) are claimed pref. the soaps contain ≥ 1 anionic surfactants (e.g. sodium alkylsulphates, sodium alkylbenzenesulphonates), nonionic surfactants, (e.g. polyoxyethylene alkyl ethers, polyoxyethylene polyoxypropylene block copolymers) and amph -teric surfactants (e.g. alkylaminocarboxylic acids, alkylammonium betaine).

The soaps have improved resistance against hard water and exhibit high activities at low concns. The soaps are no easily hydrolysable so that they can be stably used alone. The soaps are also excellent in dispersibility, rust-inhibit -ory activity and emulsifying activity. 6.2.78 as 012065(

D25: OTHER DETERGENTS

COLG ★ D25 69974B/39 ★BE -876-230
Detergent compsn. for washing powders contg. specified clays - and quat ammonium softening compsn. contg. kyanite or halloysite
COLGATE PALMOLIVE CO 15.05.78-US-905622
E33 (E16) (03.09.79) C11d D06l D06m

Compsn. comprises a detergent surfactant and ≥1 clay from a kyanite, a halloysite and mixtures of smectite and metakaolin. Mixt. for softening textile articles comprises a kyanite or a halloysite and a quaternary ammonium textile softening agent or anti-static agent.

Compsn. is used for washing clothes etc. It enables good detergence and good softening and anti-static effects e the present use of bentonite type clays which give to problems with the above agents. 14.5.79 as 876230 597)

★ D25 69975B/39 ★BE -876-231

gent compsn. for washing powder contg. meta-kaolin - and ammonium cpd.; plus meta-kaolin textile softening compsn.

OLGATE PALMOLIVE CO 15.05.78-US-905718

3 (E16) (03.09.79) C11d D06l D06m

compsn. comprises a detergent surfactant and a meta-in, the metakaolin/surfactant ratio being at least 1. A further compsn. comprises an anionic surfactant, etakaolin and a quaternary ammonium textile softening t.

mixture for softening textile articles comprises a ernary ammonium textile softening or antistatic agent, metakaolin.

The compsn. is used for washing clothes etc. It en-s good detergence and good softening and antistatic cts unlike the present uses of bentonite type clays ch give rise to problems with the above agents. 5.79 as 876231 (17pp597)

N- D25 74781A/42 #DS 2717-849

ergent compsn? useful for treating dirty surfaces - contg. alkaline nt improving the detergency, wetting and flocculating agents 23.5.78)

ENNANT CO 25.10.76-SW-011840 (22.04.77-DT-717849)

*A97 (A12 A14) (20.09.79) *FR2377-447 C11d-01/83 C11d-03/37*

ansing agent, useful as carpet shampoo, comprises (a) 75% of alkaline builder, (b) 0.5-30% of wetting agent (c) 2-40% of flocculation agent. Builder (a) is sodium polyphosphate or its mixt. with one or more of the lowing: sodium- and potassium-hydroxide and -citrate, dium-sulphate and -carbonate and trisodium phosphate, rasodium pyrophosphate and nitrilotriacetic acid.

Wetting agent (b) is a mixt. of mono- and poly-glucoles of 8-10C alcohols and an ethoxylate with 4-18C in main chain which has acid gps. and a turbidity point of 100°C. Agent (c) is a copolymer of dimethyl-diallyl-nmonium chloride and acrylamide with a mol. wt. > 6. 22.4.77 as 717849 (5pp068).

JL ★ D25 70203B/39 ★DT 2811-665

et-granulating alkali aluminium ion exchanger - with vitreous ndensed phosphate addn. to form free-flowing granules

GIULINI CHEMIE GMBH 17.03.78-DT-811665

E33 F06 (D15) (20.09.79) C01b-33/26 C02b-01/40 C02c-05/08 C11d-03/08 D06l-01 D06l-03

n exchanger alkali Al silicate, (I), granulation, using liq. anulating auxiliaries, takes place in the presence of ≥ 5 0-30) wt. %, w. r. t. total mixt. of condensed vitreous ph-phates having formula $M_{n+2}P_nO_{3n+1}$ (II), (where M is alk-i metal and n > 3).

Granulation is pref. continuous, e. g. in mixer-granul-ors. (III) may be crystallisable $Na_5P_3O_{10}$ and/or $Na_4P_2O_7$. I) may be Na metaphosphate, -tetrapolyphosphate and (I), -here n = 10 to 50).

The granulates can replace phosphate builders in deter-ents, cleansing, bleaching and dyeing compsns. (I) can be nixed, during or after granulation, with further alkali olyphosphates, (III) to form exclusively inorganic water-ofteners. The addn. of (II) yields free-flowing, compress-on-resistant granules which mix well with other compon-nts. Dust-formation is prevented. 17.3.78 as 811665 O6p5/20 (8pp200)

ARB ★ D25 70211B/39 ★DT 2811-717

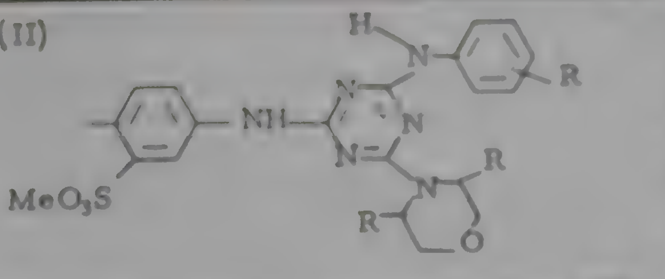
Comminution of white toner used in washing powder - by milling he toner which is a bis:aniline morpholino-triazinyl-amino stilbene ulphonate cpd., in water

BAYER AG 17.03.78-DT-811717

E33 (20.09.79) C07d-413/04 D06l-03/12

Comminution of white toners, which are soluble in water with difficulty, in the free acid form, are of formula A-CH =CH-A (I) (where A is a gp. of formula (II); and R is methyl or pref. H; and Me is Na or K) and are in the beta-crystal form, is effect-

(II)



ed by milling an aq. dispersion at 80-100°C, opt. with the usual additives. The starting material pref. is a wet cake from a filter press, obtd. in the synthesis of (I).

No additive (to prevent conversion to the alpha-form) and no organic solvent is necessary and concn. dispersions are obtd. These can be added directly to washing powders or spray dried to powders or granulates. 17.3.78 as 811717 (12pp016)

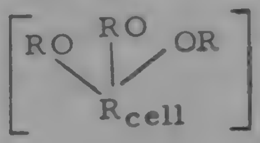
COLG D25 66840X/36 =GB 1553-201

Detergent compns. partic. for washing machines - contg. mixt. of specified detergents, cationic polymer and an alkanol

COLGATE PALMOLIVE CO 18.04.75-GB-016108

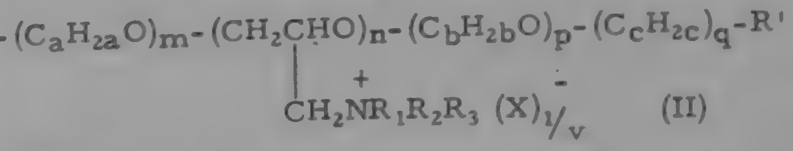
*A97 E19 +P28 (26.09.79) *BE-840-802 C11d-01/12 C11d-03/37 +C11d-10/02*

Articles having soiled glazed surfaces are cleaned by washing in an aq. medium contg. dissolved mixt. of water-soluble non-proteinaceous cationic polymer of formula (I) and a water soluble detersive surfactant. The concn. of surfactant is 0.01-1 wt.% and the wt. ratio of surfactant to (I) is 2:1-1000:1.



(I)

In (I) R_{cell} is the residue of an anhydro-glucose unit, y is an integer of 50-20000 and each R is a gp. (II),



$$-(C_aH_{2a}O)_m-(\underset{\underset{CH_2\overset{+}{N}R_1R_2R_3\ (\overset{-}{X})_{1/v}}{|}}{CH_2CHO})_n-(C_bH_{2b}O)_p-(C_cH_{2c})_q-R' \qquad (II)$$

(where a = 2 or 3; b = 2 or 3; c = 1, 2, or 3; m = 0 or an integer of 1-10; n = 0, 1, 2 or 3; p = 0 or an integer of 1-10; q = 0 or 1; R' is H, COOH, COONa, COOK or $COONH_4$ provided that when q = 0 then R' is H. R_{1-3} are each (ar)alkyl, aryl, cycloalkyl, alkoxyalkyl, alkaryl or alkoxyaryl provided that when any one is alkoxyalkyl there are ≥2C atoms sepg. the O atom from the N atom; and the total number of C atoms in R_{1-3} is 3-12; or R_{1-3} may form a heterocyclic ring. X is anion and v is an integer equal to the valence of X.

The average value of n per anhydroglucose unit of the cellulose ether is 0.01-1; and the average value of m+p+q is 0.01-4. 5.7.76 (8pp924)

COLG D25 66840X/36 =GB 1553-202

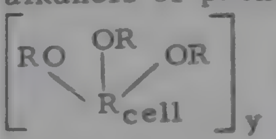
Detergent compns. partic. for washing machines - contg. mixt. of specified detergents, cationic polymer and an alkanol

COLGATE PALMOLIVE CO 18.04.75-GB-016108 (00.00.78-GB-035025)

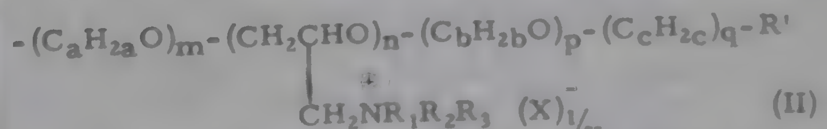
*A97 E19 +P28 (26.09.79) *BE-840-802 C11d-01/12 C11d-03/37 C11d-10/02*

Liq. detergent compsn. suitable for washing articles having soiled glazed surfaces, comprises 15-45% of a water-soluble detersive surfactant mixt., 0.05-5 wt.% of a water-soluble non-proteinaceous, cationic polymer of formula (I) and an aq. medium.

The surfactant mixt. comprises an anionic sulphonate detergent selected from 10-16C alkylbenzene, 12-18C α-olefin and/or 10-20C alkyl sulphonates, and a second detergent selected from alkyl (phenoxy) polyethenoxy ether sulphonates, and condensn. prods. of ethylene oxide with alkanols or phenols. In (I) R_{cell} is the residue of an anhydroglucose unit, y is an integer of 50-20,000 and each R is gp. (II), (where a = 2 or 3; b = 2 or 3; c = ,1, 2 or 3; m = 0 or an integer of 1-10; n = 0, 1, 2 or 3; p = 0 or an integer of 1-10; q = 0 or 1;



(I)



$$-(C_aH_{2a}O)_m-(\underset{\underset{CH_2\overset{+}{N}R_1R_2R_3\ (\overset{-}{X})_{1/v}}{|}}{CH_2CHO})_n-(C_bH_{2b}O)_p-(C_cH_{2c})_q-R' \qquad (II)$$

R' is H, COOH, COONa, COOK or $COONH_4$ provided that when q = 0 then R' is H.

R_{1-3} are each (ar)alkyl, cycloalkyl, (alk)aryl, alkoxyalkyl or alkoxyaryl; or together they form a heterocyclic ring. X is an anion and v is an integer equal to the valence of X. The average value of n per anhydrocellulose unit of the cellulose ether is 0.01-1; and the average value of m+p+q = 0.01-4. 5.7.76. Div.ex. 1553201 (9pp924)

ICIL D25 15842Y/09 =GB 1553-212
Detergents contg. ethoxylated alcohol or alkylphenol - and ethoxylated propoxylated propylene glycol
IMPERIAL CHEM INDS LTD 11.08.75-GB-033436
*A97 H03 (A25) (26.09.79) *NL7608-911 C11d-01/72 +C11d-03/43 C11d-10/02*

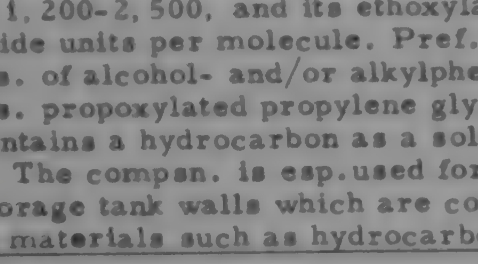
A cleaning compsn. which is liq. when free from water comprises an ethoxylate of an 8-20C alcohol contg. 3-15 ethylene oxide units per molecule and/or an ethoxylate of an alkylphenol, and an ethoxylate of a propoxylated propylene glycol.

The propoxylated propylene glycol moiety has a mol.wt. of 1,200-2,500, and its ethoxylate has 15-40 ethylene oxide units per molecule. Pref. the compsn. has 4-6 wt. pts. of alcohol- and/or alkylphenol ethoxylate and 1-3 wt. pts. propoxylated propylene glycol ethoxylate. The compsn. contains a hydrocarbon as a solvent.

The compsn. is esp. used for cleaning surfaces such as storage tank walls which are contaminated with hydrophobic materials such as hydrocarbon oils. 2.8.76 (7pp931)

BADI D25 22679Y/13 =GB 1553-246
Novel pyrazoline cpd.
BASF AG 11.11.75-DT-550548 (31.07.75-DT-534180)
*A60 E13 F06 (26.09.79) *J52021-031 C07d-231/06 C07d-401/12 D06l-03/12 +C07d-403/12 C07d-413/12 C07d-417/12*

Pyrazoline cpds. of formula (I) are new:



(I)

In (I), Q is SO_2, $CH_2C(B_3)(XA)CH_2R_1$ (Ib) or $SO_2\text{-}C(B_1)(B_2)\text{-}C(B_3)(XA)\text{-}C(B_5)(R_1)\text{-}B_4$ (Ia). In (Ia), B_{1-5} are each H or 1-4C alkyl, R_1 is H, OH, or alkyl, R_2, R_3, R_5, R_6 and R_7 are each H, Cl, Br, F, (m)ethyl or (m)ethoxy; R_4 is H, alkyl, benzyl, phenylethyl or opt. substd. phenyl; X is -O-, -S-, $-NR_8-$, $-NR_8CO_2-$, $-O-SO_3-$, or $-SO_3-$; R_8 is H or opt. substd. alkyl; A is H, Na, K, opt. substd. ammonium or opt. substd. (cyclo)alkyl or ar(alk)yl; or NR_8 and A together are an opt. quaternised (un)satd. heterocyclic ring. Provisos are (i) that X is $-NR_8-$ only when R_1 is OH and (ii) that A is not H when X is -O-.

In (Ib), B_3 is H or 1-4C alkyl; R_1 is H, OH, or 1-4C alkyl; R_2, R_3, R_5, R_6 and R_7 are each H, Cl, Br, F, (m)ethyl or (m)ethoxy; R_4 is H, 1-4C alkyl, benzyl, phenylethyl or opt. substd. phenyl; X is -O-, -S-, $-NR_8-$, $-NR_8CO-$, $-NR_8SO_2-$, $-OSO_3-$, or $-SO_3-$; R_8 is H, 1-4C alkyl or 2-3C alkyl bearing OH or 1-4C alkoxy substit., and A is H, Na, K, ammonium, 1-8C alkyl or substd. 2-3C alkyl, cyclohexyl, benzyl, phenylethyl, phenyl or sulphophenyl; or NR_8 and A together are a 5-7 membered satd. heterocyclic ring with 1 or 2 heteroatoms selected from O, S and N.

(I) are useful as optical brighteners, esp. for cellulose esters, polyacrylonitrile, wool or polyamide. 30.7.76 as 031805 (+6.8.75-DT-535095) (-pp936)

SHEL D25 38473A/22 =GB 1553-386
Refining surface active agent streams - contg. water and non-surface active material, with sulphated or sulphonated organic material, by extn. with ketone or acetate as solvent
SHELL INT RES MIJ BV 30.11.76-GB-049831
*E19 (26.09.79) *BE-861-192 C07c-139/14*

Non-surface active material is extd. from a water/sulphated or sulphonated organic matter/non-surface active material feedstock by extracting the feedstock with a 4-10C ketone solvent at 60°C. or by using a 1-6C alkyl-acetate solvent.

A ketone or acetate/non-surface active material extract and a ketone or acetate/water/sulphated or sulphonated organic matter raffinate is formed in the extraction. Opt. the ketone or acetate may be sepd. from the extract and/or raffinate. Pref. the ketone is methyl isobutyl ketone, and the acetate is ethyl or isopropyl acetate.

The process is esp. used where the feedstock compri
300-1,000 wt.% of water w.r.t. wt. of sulphated or sul-
phonated organic material, and the amt. of sulphated/sul
phonated organic material is 5-25 wt.% w.r.t. the feedstock. 28.11.77 (4pp931)

INTE- D25 43394Y/25 =GB 1553-50
Stabilised sodium percarbonate mfr. - by precipitating in presenc
of silicate, then increasing the silicate content of the mother liquor
INTEROX CHEM LTD 01.08.75-GB-032185 (13.05.75-GB-020032)
*E34 (26.09.79) *BE-849-370 C01b-15/10*

Sodium percarbonate is pptd. from a silicate-contg. soln
yielding a particulate ppte. incorporating a restricted amt. of silicate within and throughout the particles; an amt. of silicate is then deposited on the surface of the pa
ticles to ameliorate the rate of decomposition of the prod
induced by external contaminants.

Pref. the soln. from which the prod. is pptd. contain
silicate in an initial concn. of 0.3-2.0% gpl. The silicate
(calculated as SiO_2) incorporated during pptn. is 0.1-0.4 wt.%.

The sodium percarbonate prepd. may be used in deter
gent compsns., even after prolonged storage. The prod. is stabilised against the adsorption of moisture from the environment, and reaction with the handling equipment. 11.8.76 (8pp931)

MORI/ ★ D25 70429B/39 ★J5 4049-98
Prodn. of liq. surfactant compsn. for dry-cleaning - by addin
alkylbenzene sulphonic acid(s) to surfactant(s) and opt. addin
alkali dissolved in ether
MORI Z 28.09.77-JA-117240
E19 G04 (19.04.79) C11d-01/14 C11d-03/02

The process is effected by adding opt. branched alkylbenzenesulphonic acid(s) to surfactant(s), and opt further ad
-ing dissolved alkali sol. in monobutylether or monoethyl
-ther or monomethylether of ethylene glycol.

The surfactant compsns. may be used combined with perchloroethylene or petroleum series solvents, and is useful for dry-cleaning. In an example 14 grams of KOH were added to 230 g of ethylene glycol monobutylether, ar
stirred for 30 mins. The resulting soln. was cooled and 140 g of dodecylbenzenesulphonic acid added. To the soln
were added 506g of polyoxyethylenenonylphenolether and further 110 g of alkylolamide. 10 grams of the soln. wer
added to 1 l of perchloroethylene and 1 l of New Solvent K
(RTM). In both cases the resultant was stable transparen
soln. 28.9.77 as 117240(4pp96)

NAKA- ★ D25 70718B/39 ★J5 4105-10
Washing process for oil removal - using sodium (N)-dodecy
benzenesulphonate in the presence of acetic acid
NAKANO SUMISE KK 07.02.78-JA-011956
E19 (17.08.79) C11d-03/20

In washing a substance soiled by oil using sodium n-dodec
-ylbenzenesulphonate (I) or a washing agent contg. (I), the improvement comprises diluting (I) or the washing agent with water, and adding acetic acid to the dil. soln. in an amt. to provide a concn. of 0.4-3.0 wt.%.

In one example, 2.5 g of sodium n-dodecylbenzene sul
phonate was diluted with water 1200 times to obtain 31
of a dil. soln. thereof. 1% of acetic acid was added to the dil. soln. to obtain a washing soln. Dishes dirty with oil were immersed in the washing soln., washed therewith, purified with water, and dried. As the result of it, the oi
could be completely removed from the dishes. 7.2.78 as 011956 (3pp51)

LIOY ★ D25 70971B/39 ★J5 4106-50
granular cleaner prodn. - includes forming alkali silicate-surfactan
slurry; mixing with acidic surface active agent, adding remainin
silicate, spray drying
LION FAT & OIL KK 10.02.78-JA-013404
E19 (E37) (21.08.79) C11d-11/02

A granular cleaner contg. 15-40 wt % of a surface active agent, 5-20 wt % of a alkali silicate and < 12 wt % of a phosphate (by P_2O_5 base) is prepd. by producing a slurry contg. a part or all of the surface active agent (i.e. an anionic agent, or anionic agent and nonionic and/or ampho
-eric agent), and an alkali silicate, (which has a 1.8-3.

olar ratio of SiO_2/M_2O where M is alkali metal). The lurry is mixed with 0.47-0.58 eqv. of an acidic surface ctive agent (e.g. alkylbenzenesulphonic acid, alkylsulphur ic acid), or an organic acid (e.g. citric acid, malic acid, artaric acid) per mol of SiO_2 in the slurry, and the mola atio of SiO_2/M_2O (where M is an alkali metal) of alkali ilicate in the slurry is regulated to 4.6-6.0. The rest o he alkali silicate is added to the slurry so that the molar atio of SiO_2/M_2O of the alkali silicate is 2.8-3.8. The lurry is then spray-dried.

The granular cleaner has a low phosphate content fav- ourable granular strength, high resistance to solidification lue to pressure and moisture, good fluidity and a low con- ent of insoluble matter.

The raising of the molar ratio of SiO_2/M_2O of the alkali silicate dissolved in the slurry is very importanrt and if t is omitted, the desired granularcleaner cannot be obtd. although the molar ratio of SiO_2/M_2O of the final prod. may be adjusted to 2.8-3.8. 10.2.78 as 013404 (6pp170)

NIHS D25 07475A/04 = J7 9025-930

Non-polluting detergent for the home - contains a fatty acid ester of tarch sugar

NIPPON SURFACTANT KK 04.06.76-JA-065823

*E13 (31.08.79) *J52148-510 C11d-01/66*

The detergent contains fatty acid ester of starch sugar, consisting of maltose and maltriose with 8-24C fatty acid, and fatty acid ester of polyhydric alcohol which is used as a food additive. The fatty acid esters of starch sugar have high compatibility with other surfactants. The detergent effect of the prod. is further improved by the synergetic effect of fatty acid ester of polyhydric alcohol. Since all of the materials are used as food additives, the detergent may be used for tableware.

The starch sugar is obtd. by the enzymatic decomposition of naturally occurring starch. A range of starch sugar with good dispersibility and ageing by the molecular rearrangement pref. comprises 0-10% glucose, 50-95% maltose, 5-40% maltriose and 0-5% of other components. The solubility in water of fatty acid ester of starch sugar is higher, the smaller the number of C atoms and degree of esterification; and the emulsifying power is higher, when the number of C atoms is 16-18. Superior detergency may be attained by using 12-14C fatty acid, or a fatty acid having longer chain (16-18C) with shorter chain. Pref. polyhydric alcohol is glycerin, propylene glycol, or sorbitan. 4.6.76 as 065823 C11d-1/66 (31.8.79) NIPPON SURFACTANT KK (NISH-) (5pp) (J52148510)

KAOS D25 47790Y/27 = J7 9026-232

Liq. bleaching agent compsn. - comprising sodium hypochlorite, alkali and nonionic polyethylene oxide

KAO SOAP KK 19.11.75-JA-139091

*A97 E34 F06 (A25) (03.09.79) *J52063-184 C11d-07/54*

Compsns. contg. Na hypochlorite do not deteriorate in fluorescent intensity and do not ppte. out etc. over long periods of time.

This is achieved by preparing compsns. contg. Na hypochlorite 3-7 wt.% alkali 0.1-2 wt.% and cpds. including nonionic polyethylene oxide, 0.01-1 wt.%.

The added alkali quantity is pref. 0.1-2 wt.% esp. 0.5-1 wt.%. When the alkali content is $<0.1\%$, the stability of the Na hypochlorite is not sufficiently retained. When it is $> 2\%$, the bleaching effect decreases undesirably because the pH becomes too high. The added quantity of cpds. contg. nonionic polyethylene oxide is pref. 0.01-1 wt.% esp. 0.05-0.5 wt.%. When it is $> 0.01\%$ it is not sufficiently effective to prevent deterioration of fluorescent intensity. When it is $<1\%$, the Na hypochlorite stability is reduced.

Anionic surfactant or anti-chlorine property and amphoteric surfactant can be added at need. Using these liq. bleaching agents, cloths of high whiteness are obtainable without deterioration of intensity of the fluorescent dyes used. 19.11.75 as 139091 C11d-7/54 (3.9.79) KAO SOAP KK (3pp) (J52063184)

SHIS D25 37571A/21 = J7 9026-245

Transparent cleansing gel - comprises fatty acid soap, moistening agent, water montmorillonite-based powder and fatty acid di:ethanolamide

SHISEIDO KK 28.09.76-JA-116288

*E12 (E16 E37) (03.09.79) *J53041-309 +C11d-17/08*

The gel comprises a cleansing agent composed mainly of fatty acid soap, moistening agent and water mixed with 0.5-3 wt.% montmorillonite-based inorganic powder composed of silicon oxide and magnesium oxide with $<5\%$ aluminium oxide content and fatty acid diethanol amide.

The agent has improved transparency, thixotropic property, stability, foaming property and appearnace. 28.9.76 as 116288 C11d-17/08 (3.9.79) SHISEIDO KK (3pp) (J53041309)

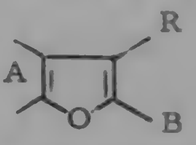
FARH D25 13082U/10 = J7 9026-573

Benzofuran derivs - fluorescing violet-blue to green-blue in soln and used as optical brighteners

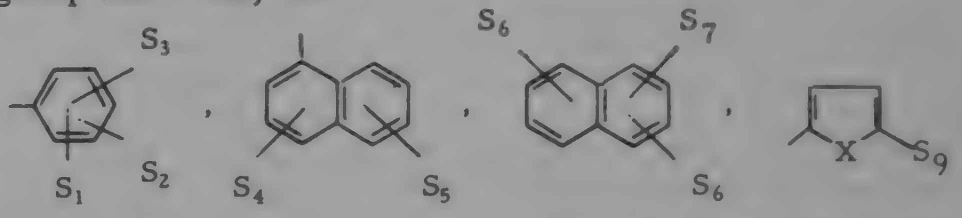
FARBWERKE HOECHST 13.08.71-CH-011925

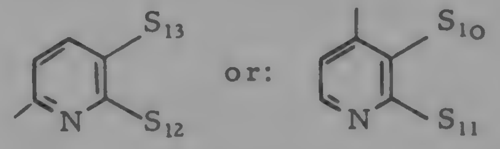
*E23 (05.09.79) *DT2238-644 C07d-307/79 C09b-57 C09k-13*

Cpds. are of formula:



(where A is an arom. ring system condensed in the manner indicated with the furan ring, R is H, lower alkyl, or phenyl group opt. substd. by alkyl, lower alkoxy or halogen or an opt. functionally altered carboxy group and B may be:





where S_1, S_2 and S_3 are H, halogen, lower alkyl, phenyl gps. opt. substd. by non-chromophores, functionally altered carboxy or thio groups, acyl, acylamino, sulphone, lower alkoxy, lower dialkylamino or lower trialkylammonium with the proviso that not all of S_1, S_2 and S_3 are simultaneously H and/or lower alkyl, S_4, S_5, S_6, S_7 and S_8 may be the same groups as those of S_1, S_2 and S_3 (but without the restriction), S_9 may be H, a phenyl group opt. substd. by non-chromophores or opt. functionally altered carboxy or thio groups, and X is O or S, S_{10}, S_{11}, S_{12} and S_{13} may be H or Cl or S_{10} and S_{11} or S_{12} and S_{13} may together form an anellated benzene ring) and its corresp. pyridinium salt with (in)org. acids and the corresp. quaternisation prods. 11.8.72 as 080049 (clg. 13.8.71-CH-011925) C09b-57/00; C09k-13/00; C07d-307/79 (5.9.79) FARBWERKE HOECHST AG (12pp)(J48028031)

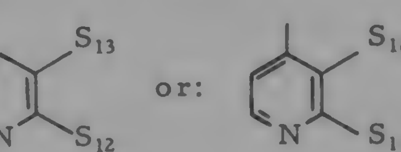
HENK D25 00028W/01 = SU-639-458

Nonionic ethoxylated products for washing compsns. - prepd. by condensing epoxyalkane with alcohol and reacting prod. with ethylene oxide

HENKEL KG AUF AKTIEN 18.06.73-DT-331014

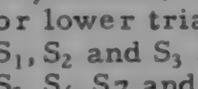
*E17 (28.12.78) *BE-816-340 C11d-01/66*

Novel ethoxylated prods. have formula (I)



$$\begin{array}{l} R\text{-}CH - (CH_2)_y - O - R_2 \\ \quad | \\ \quad (CH_2)_z \\ \quad | \\ \quad O - (CH_2CH_2O)_z\text{-}H \end{array} \qquad (I)$$

where R_1 is 4-18C aliphatic hydrocarbyl R_2 is 1-10C aliphatic hydrocarbyl, x and y are 0 or 1, z is 3-18 pref. 5-15, the total C in R_1 and R_2 being 6-22 and (x+y) being always 1. The cpds. are prepd. by reacting epoxy alkane



$$R_1\text{-}CH\text{-}CH_2 \text{ (with O bridging)}$$

with alcohols ROH in the presence of alkaline alcoholates or acids. (I) are used in washing compsns. and have good detergent props. while preventing greying of natural and synthetic fibres.

Shtein W., Rupilius W., Zung E. et al. Bul. 47/25.12.78 11.6.74 as 032648 (9pp)

CHIN= ★ D25 71327B/39 ★SU -639-925

Detergent mixture for washing textiles - contg. additional hydroxyethylated stearic acid and polyhydroxyethylated higher fatty acid alkylamide

CHEM IND RES PLAN 20.09.76 SU-407056

A97 E17 F06 (A25 E16) (30.12.78) C11d-01/66

Addn. of hydroxyethylated stearin acid (I) and polyhydroxyethylated alkylamides of 10-16C synthetic fatty acids (II) to the detergent mixt. used for washing textiles, imparts to it the softening and antistatic properties.

The mixt. contains (in wt.%): (I) 6.0-16.0, (II) 3.0-8.0, synthetic 10-16C polyhydroxyethylated fatty acids (III) 3.0-8.0, synthetic 10-16C fatty acid monoethanolamides (IV) 0.5-3.0 Na tripolyphosphate (V) 15-30, carboxy methyl cellulose (VI) 0.5-1.5, NaCl 3-6, Na_2SO_4 (VII) 2-5, optical bleach (VIII) 0.1-0.4, scent (IX) 0.1-0.5 and water up to 100, with (I) : (II): (III) = 2:1:1.

Nikitenko A.G., Lysova N.N., Ivanauskas E.K., Bul. 48/30.12.78 29.9.76 as 407056 (4pp124)

CHPR- D25 60995V/34 =SU -640-6

Bromine complex washing agents - with disinfecting action reacting iodine bromide with nonionic surface active agents

INST CHEMII PRZEMYS 14.02.73-PO-160732

*E16 P34 (D22 E14) (10.01.79) *NL7401-639 A611-01 C07c-43.*

C11d-01/72

Bromine- and bromine-iodine washing- and disinfecting agents $R-(OC_nH_{2n})_x-OH....Br-Br....HO-(C_2H_{2n}O)_x-R$ (where R is alkyl, aryl or 6-32C alkylaryl gp. and x is 2-50) are made by reacting iodine-bromide ions $(IBr_2)^-$ with non-ionic surfactants (II) contg. little or nor water in a ratio of ≥1 mol. $(IBr_2)^-$ per 2 mol (II) at 0-60 °C.

The prods. have good cleaning and disinfecting powe and can be used for cleaning equipment in agriculture, food industry, veterinary processes, transport units etc

Klopotek A., Uminskii J., Dziala G., Bul. 48/30.12.7 14.4.75 as 994696 (4pp)

See Also

D21 US 4168144 D23 BE 874963

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L    A93  *DT 2602-948
     Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L    A93 L02(A21)  *DT 2602-947
     Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
     M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE -832-423   X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF 7502-292   X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or ≠ sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97[illegible]
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88[illegible]Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also cont
natural rubber, hydrated                                  49862X/26  *US 3963-65
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H0
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifyin
earth in dams                                             49433X/26  *DT 2554-32
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made b
cultivating a species of                                  48076X/26  *CA -990-66
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7

Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

R= 01.02.77 ARMN AGRIC MECHN D14 *SU -639-491
ixer for agricultural fodder, etc. - 71170B/39
I= 31.05.77 AS AZERB INORG PHYS D16 *SU -639-934
urifying and clarifying wine and wine prods. - 71331B/39
O 20.03.78 ABBOTT LABORATORIES A96 B04 D16 J04 *BE -874-956
able reagents for hepatitis testing - 69922B/39
O 20.03.78 ABBOTT LABORATORIES A96 B04 D16 J04 =GB 2016-687
able reagents for hepatitis testing - 69922B/39
T- 06.03.78 A-BETONG AB D15 E17 =NL 7901-772
arge scale mfr. of methane from organic waste e.g. manure - 66325B/37
I 17.09.73 AECI LTD D13 =IT 1032-083
Milk product having increased unsatd. fatty cpd content - 21359W/13
EN 06.02.78 AGENCY OF IND SCI TECH A97 D24 E12 (E17) *J5 4106-
atty acids with alpha-sulphur contg. substit. - 70923B/39
P 18.01.78 AIR PRODUCTS & CHEM INC A81 D21 F04 (A14) =J5 4104-
Moist packaged towelette contg. polyvinyl alcohol binder - 54938B/30
P 18.01.78 AIR PRODUCTS & CHEM INC A81 D21 F04 (A14) =J5 4104-
Moist packaged towelette contg. polyvinyl alcohol binder - 54938B/30
N 01.02.78 AJINOMOTO KK B03 D16 E13 =J5 4105-293
ermentative prodn. of L-proline - 58379B/32
ER- 20.02.78 AKERS MEK VERKSTED D15 H01 J01 =BR 7901-045
Water filter for removing microorganisms, e.g. marine algae - 63493B/35
R/ 23.09.75 AKIRA H D14 J04 =GB 1553-502
Metering powders to pelletising machine - 23917Y/14
T 07.02.78 AKITA SEIREN KK D15 E32 M28 *J5 4106-097
Treating zinc sulphate-contg. tail soln. from zinc electrolysis - 70883B/39
MI= 10.05.77 AS KAZA MICROBIOL VIRUSO B04 D16 *SU -639-941
Detection of influenza virus infection - 71336B/39
MI= 01.08.77 AS KAZA MICROBIOL D16 *SU -639-929
Nutrient medium for culturing Aspergillus fungal strain - 71328B/39
BR 13.02.78 BUSH BOAKE ALLEN D13 =BR 7900-877
Dehydrating organic tissues esp. foods - 59829B/33
BR 13.02.78 BUSH BOAKE ALLEN LT D13 =DK 7900-579
Dehydrating organic tissues esp. foods - 59829B/33
BR 13.03.78 BUSH BOAKE ALLEN D13 *DT 2810-730
Flavouring agent pepper cinnamon or turmeric emulsion prepn. - 70165B/39
FF 20.02.74 ALFA FARMACEUTICI SPA B02 D16 =US 4168-375
Cephalosporin C recovered from aqueous media - 46104W/28
LC 23.02.76 ALLIED CHEMICAL CORP B07 D13 E19 G04 =CA 1062-135
Time temperature history indicators for perishables - 03689Y/02
ACY 09.01.67 AMERICAN CYANAMID CO A96 D22 F01 =IT 1032-001
Absorbable surgical prosthetic devices of - 34074Q/00
ACY 22.10.76 AMERICAN CYANAMID CO A96 D21 *US 4168-000
Direct dispensing suture package - 71550B/39
NIM= 04.01.77 ANIMAL HUSBANDRY C03 D13 *SU -640-730
Compsn. for preservation of fodder - 71422B/39
NON 20.08.79 ANONYMOUS D18 *RD -185-016
Testing filter cigarettes having ventilation section in filter region - 71097B/39
NVR 15.10.76 AGENCE NAT VALORISA D15 =CA 1062-099
Self-cleaning fish farming tank - 50153A/28
PRE/ 20.05.75 APRELSKAYA E G D18 *SU -639-943
Drying fur pelts etc. - 71337B/39
QAC 30.01.67 AQUA CHEM INC D15 J08 =IT 1032-002
Vapour compression evaporation with ventcond - 01073R/01
QUA- 22.03.77 AQUATECH SIERRE SA D15 H05 J01 =US 4167-973
Decontaminating organically polluted soil and underground water - 53525A/30
RTI= 21.03.77 ARTISTIC DES TECHN D13 *SU -639-506
Crystalliser for making sweets - 71177B/39
SAG 07.02.78 ASAHI GLASS KK D15 E32 M28 *J5 4106-097
Treating zinc sulphate-contg. tail soln. from zinc electrolysis - 70883B/39
SAH 23.01.78 ASAHI CHEMICAL IND KK D16 (D17) *J5 4105-063
Prepn. of compost from starch-type organic material - 70714B/39
TTE/ 01.02.78 ATTECK L A G D12 *GB 2016-254
Prod. contg. fat globules surrounded by proteinaceous materials - 70353B/39

ADI 22.03.74 BASF AG D25 E16 F06 (E12) =IT 1032-353
Surface active extraction agent for cellulosic fibres - 67304W/41
ADI 16.09.74 BASF AG B02 C02 D13 E13 =CA 1062-262
Thiophene-saccharin cpds - 24791X/14
ADI 07.11.74 BASF AG D23 E13 =US 4168-270
Tipinyl-trioxan prepn. from 3-formyl-pinan enantiomer mixt. - 38269X/21
BADI 31.07.75 BASF AG A60 D25 E13 F06 =GB 1553-246
Novel pyrazoline cpd. - 22679Y/13
BADI 21.02.78 BASF WYANDOTTE CORP A97 D23 F09 =BR 7901-141
Recovery of tall oil from tall oil soap - 42305B/22
BAHR/ 07.03.75 BAHR A D15 =US 4168-236
Filter process for dehydrating sewage sludges - 57879X/31
BALL/ 21.02.78 BALLA A D13 *DL -136-699
Continuous butter prodn.from cream - 70094B/39

*BASE/ 07.02.78 BASE N A97 D15 *J5 4105-851
Biologically treating sewage, industrial effluents, etc. - 70826B/39
*BAUD/ 16.03.78 BAUDACH G D13 *DT 2811-356
Liq. milk shake or pudding prepn. - 70190B/39
BAUM- 15.12.77 BAUMGARTNER PAPIERS D18 F04 =FR 2411-580
Cigarette filters prodn. - 29786B/16
BAYE- 16.12.77 BAYERISCHE PFLUGFAB D14 =FR 2411-555
Fodder mixing trailer with lateral discharge openings - 47589B/26
BEAC/ 21.12.77 BEACH R W D15 #CA 1061-977
Buoyant cover contg. petroleum wax for ponds - 06118A/03
BEAF 11.04.72 BEATRICE FOODS CO B04 C03 D16 (D13) =US 4168-204
Stable freeze-dried Lowenstein-Jensen medium - 63141B/34
BEAF 03.11.75 BEATRICE FOODS CO D13 =CA 1062-075
Candy coatings for confectionery etc. - 68685X/36
BECT 09.12.70 BECTON DICKINSON CO D16 =DT 2167-197
Flexible petri dish - 42877T/27
BIOC 07.03.78 BIOCHEMIE KUNDL GMBH B05 D16 #NL 7802-475
Pleuromutilin solvates with a halogenated aliphatic hydrocarbon - 49608A/27
BIOR- 14.12.77 BIO RES CENT KK D16 E17 =FR 2411-888
Microbiological prepn. of mono and/or di:carboxylic acids - 45675B/25
BIOR- 15.03.78 BIO RESEARCH CENTER D16 E17 =DT 2909-420
Recovering di:basic acids from fermentation broth - 68127B/38
BIOR- 15.03.78 BIO RES CENT CO LTD D16 E17 =GB 2016-453
Recovering di:basic acids from fermentation broth - 68127B/38
*BIOT= 07.02.77 BIOTECH RES INST D16 *SU -639-494
Continuous cultivation of photo-autotrophic microorganisms - 71171B/39
*BIOT= 08.08.77 BIOTECH RES INST D16 *SU -639-938
Measuring degree of enzymolysis of cell wall - 71333B/39
*BIRD/ 07.09.77 BIRD L L D12 *US 4168-418
Appts. for rendering meat and blood to give dried prod. - 71682B/39
*BIRD= 14.04.77 BIRD REARING RES D13 *SU -640-719
Washing and disinfecting incubated poultry eggs - 71416B/39
BLUE- 21.12.77 BLUE WING CORP C03 D13 (C04) =SF 7803-957
Dry fertiliser, animal feed or human feed prodn. - 47150B/26
BOEF 09.06.76 BOEHRINGER MANNHEIM GMBH B04 D16 J04 =US 4168-205
Substrates compsn. or enzymatic activity evaluation - 81194Y/46
BOEF 23.12.77 SUDDEUT ZUCKER AG A97 D15 (D17) =SF 7803-947
Biological sugar refinery effluent treatment - 12099B/07
*BOEF 20.03.78 BOEHRINGER MANNHEIM GMBH A89 B04 D16 J04 *BE -874-944
Analytical determn. of alpha amylase - 69916B/39
BOOT 26.03.77 BOOTS CO LTD C01 D22 E12 F06 (F09) =DL -136-692
Fungicidal metal complexes of (N)-carbamoyl imidazole cpds. - 71158A/40
BORA- 16.12.77 BORAX HOLDINGS LTD A97 C03 D22 F09 =FR 2411-566
Synergistic wood preservative compsn. - 49370B/27
BORA- 16.12.77 BORAX HOLDINGS LTD A97 C03 D22 F09 =SF 7803-797
Synergistic wood preservative compsn. - 49370B/27
*BORK/ 02.05.78 BORKMANN K D16 *DL -136-506
Preventing beer wort oxidn. during hot sediment sepn. - 70051B/39
BOSC- 16.12.77 BOSCO IND MECCANICH D17 =FR 2411-636
Continuous massecuite screening centrifuge - 47409B/26
*BROU- 17.03.78 HOLDING BROUWER M & D12 *GB 2016-258
Appts. for sepg. meat scraps from bones - 70355B/39
*BRTI 15.03.78 TIOXIDE GROUP LTD A91 D15 G01 *DT 2910-047
Stabilising aq. cationic flocculant soln. - 70282B/39
BUCM 15.12.77 BUCHERGUYER MASCH D14 (D16) =FR 2411-699
Fruit juice extraction plant - 47394B/26
BURK/ 13.03.78 BURKLIN W D16 (D15) =DT 2810-842
Composting material depository - 68454B/38

CANI 14.03.78 CANADIAN INDUSTRIES LTD A97 D12 (D13) =GB 2016-401
Shirred stick of tubular casing material for flowable material - 68477B/38
CARO 16.05.75 CARBORUNDUM CO D15 E36 J01 =GB 1553-364
Granular active carbon prepn. from black lignite granules - 90974X/49
CASI/ 09.10.69 CASIER J D11 =SU -640-667
Non-watersoluble pentosanes as bread- - 20076S/11
*CAVA/ 22.03.71 CAVANI A D13 *IT 1032-011
Alcoholic soln. of tea with additives - B/39
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =DT 2909-096
Cellulose acetate foam cigarette filter rod - 68589B/38
*CELA 13.03.78 CELANESE CORP A97 D18 (A18) *DT 2909-496
Tobacco substitute contg. cellulose deriv. - 70271B/39
CHAP/ 31.03.76 CHAPMAN W F D15 H03 J01 #CA 1062-172
Apparatus for separating oil from aqueous liquids - 29924X/16
*CHAR= 03.05.77 CHARENTSAVAN GENETI B03 D16 E13 *SU -639-862
L-proline sepn. from bacterial amino acid synthesis mixt. - 71293B/39
CHCC 16.09.75 CHISSO CORP A97 D13 E17 =DS 2625-668
Granular sorbic acid prepn. - 20310Y/12
*CHEM 10.03.78 CHEM WERKE HULS AG B05 D22 E15 *DT 2810-398
Tetra:chloro-cyclo:butenone prodn. from hexa:chloro-cyclobutene - 70150B/39
CHEM 10.03.78 CHEM WERKE HULS AG B05 D22 E15 =NL 7901-912
Tetra:chloro-cyclo:butenone prodn. from hexa:chloro-cyclobutene - 70150B/39

•CHIN= 20 09 76 CHEM IND RES PLAN A97 D25 E17 F06 (A25 E16) *SU -639-925
Detergent mixture for washing textiles - 71327B/39

CHPR- 14 02 73 INST CHEMII PRZEMYS D25 E16 (D22 E14) =SU -640-638
Bromine complex washing agents - 60995V/34

CIAC/ 21.04.75 CIACCIO L L D15 =CA 1062-134
Oxygen demand determn. in a biological system - 85306X/46

CIBA 08.11.73 CIBA GEIGY AG A97 D15 F09 =SU -640-640
Adsorbent for industrial effluents pref. contg. dyes - 34194W/21

CIBA 07.06.74 CIBA GEIGY AG A23 C03 D15 G02 (A60) =CA 1062-391
Sulpho-modified urea-formaldehyde polycondensate - 84971W/52

CIBA 21.02.78 CIBA GEIGY AG A88 D15 J01 (A11 A14) =GB 2016-471
Semipermeable membrane polymer esp. for reverse osmosis - 63424B/35

•CIBA 10.03.78 CIBA GEIGY AG A96 D21 (A13 A14) *DT 2908-632
Ethanolamine salt of mono:alkyl maleate and styrene copolymer - 70249B/39

•CIBA 17.03.78 CIBA GEIGY AG A97 D15 F06 J01 *DT 2909-758
Foam-destroying neutralising compsn. - 70277B/39

CITR 27.07.73 AUTOMOBILES PEUGEOT D15 =DS 2435-038
Industrial effluent pretreatment - 13018W/08

COLG 26.11.73 COLGATE PALMOLIVE CO D25 E12 =IT 1032-142
Aq. alpha - olefin detergents of reduced viscosity - 64366W/39

COLG 18.04.75 COLGATE PALMOLIVE CO A97 D25 E19 =GB 1553-201
Detergent compns. partic. for washing machines - 66840X/36

COLG 00.00.78 COLGATE PALMOLIVE CO A97 D25 E19 =GB 1553-202
Detergent compns. partic. for washing machines - 66840X/36

COLG 17.03.78 COLGATE PALMOLIVE CO A97 D25 E19 =GB 2016-542
Conc. single phase liq. detergent-softener compsn. - 17866B/09

•COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 *BE -875-097
Absorbent pad for sanitary towel, disposable napkin, etc. - 69951B/39

•COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 *BE -875-098
Mfg. absorbent pad for sanitary towel, disposable napkin, etc. - 69952B/39

•COLG 15.05.78 COLGATE PALMOLIVE CO D25 E33 (E16) *BE -876-230
Detergent compsn. for washing powders contg. specified clays - 69974B/39

•COLG 15.05.78 COLGATE PALMOLIVE CO D25 E33 (E16) *BE -876-231
Detergent compsn. for washing powder contg. meta-kaolin - 69975B/39

CONC 21.04.75 CONTINENTAL GROUP INC D22 =CA 1062-213
Supporting open mouthed pouches during autoclave sterilisation - 90245X/48

•CONF= 19.04.77 CONFECTIONERY RES D13 *SU -639-507
Chewing gum based on coniferous balsam - 71178B/39

•CONS= 21.02.77 CONSUMER PRODS DES D14 *SU -640-731
Device for loading food cans into autoclave basket - 71423B/39

COOR- 22.12.77 COORS FOOD PROD CO D13 (D16) =SF 7803-952
Edible yeast product used as cocoa substitute - 47147B/26

CORP 12.01.78 CPC INTERNATIONAL INC D17 E13 (D16) =SF 7900-053
Preparing high purity maltose crystals from starch hydrolysate - 52537B/29

•CORP 11.05.78 CPC INTERNATIONAL INC C03 D13 *BE -876-125
Starch and animal feed prodn. from wheat grain - 69953B/39

•CORP 11.05.78 CPC INTERNATIONAL INC C03 D17 G03 (D13) *BE -876-126
Refining moist whole wheat grain - 69954B/39

•CORP 12.05.78 CPC INTERNATIONAL INC A89 B04 D16 *BE -876-180
Immobilising enzymes, esp. glucose isomerase on supports - 69966B/39

•CORP 20.08.79 CPC INTERNATIONAL INC C03 D13 *RD -185-019
Edible protein prods. prepn. - 71099B/39

•CORR 13.03.78 CORNELL RES FOUNDATION D16 (D13) *US 4168-262
Microbial protein contg. reduced amts. of nucleic acids - 71615B/39

CTPR 24.02.78 COTTON INC C03 D13 E17 F09 (E13) #BR 7801-147
Chemical de:lintering cottonseed hulls - 45562A/25

•CUKR- 29.06.78 CUKROWNIE BYDGOSKIE D17 *DL -136-455
Sugar beet juice filter - 70030B/39

•DAIN 07.02.78 DAINIPPON PHARM KK B04 D16 *J5 4106-401
Antibiotic tendomycin - 70909B/39

•DAUC 06.02.78 DAIICHI SEIYAKU KK A81 D15 E36 *J5 4105-844
Decomposition of small amts. of free chlorine in water - 70822B/39

•DEAK 01 02 78 AKAD WISSENSCHAFT DDR A88 D15 J01 *DL -136-702
Ultrafiltration, reverse osmosis and dialysis membrane prodn. - 70095B/39

•DEAK 01.02.78 AKAD WISSENSCHAFT DDR A88 D15 J01 (A14) *DL -136-703
Asymmetric membranes for ultrafiltration, reverse osmosis and dialysis - 70096B/39

•DEAK 09 05.78 AKAD WISSENSCHAFT DDR A13 B04 D16 J01 (A91 A96) *DL -136-503
Prepn. of para-subsd. styrene-di:vinyl benzene copolymers - 70048B/39

DECI- 10.04.75 DEC INT INC D14 =CA 1062-076
Smoke generation chamber for smokehouse - 59411X/31

DEGS 23.12.77 DEUTSCHE GOLD & SILBER D15 =SF 7803-479
Deodorising industrial and urban waste water sludges - 47180B/26

•DENG- 14 03.78 DENGYOSHA MACH WORK D15 *GB 2016-290
Biological waste water treatment appts. - 70358B/39

DERC/ 25.11 76 DERCKX H A J M D13 =US 4168-139
Lollipop manufacturing appts. - 43356A/24

•DGIA/ 13.01.78 DI GIANCARLO C D12 *IT 1032-255
Auxiliary table for holding pig carcass - B/39

•DINJ/ 22.05.78 DINJUS E D15 *DL -136-574
Glass appts. for neutralising acid and basic waste - 70059B/39

•DOCT= 27.07.73 DOCTOR RETRAINING D22 *SU -640-725
Synthetic bone for transplantation prepn. - 71417B/39

•DOCT= 15.11.76 DOCTOR RETRAINING INST D21 M14 *SU -639-543
Biologically inert, metal-ceramic dentures prodn. - 71187B/39

•DORF/ 06.03.78 DORFEL K B07 D21 E19 *DL -136-735
Oil soluble surfactants prodn. - 70104B/39

•DORO= 18.05.77 DOROGOMILOVSK PLASTIK A96 D21 *SU -640-738
Stomatological prosthetic material - 71425B/39

DOWC 09.06.70 DOW CHEMICAL CO D15 J08 M12 #J7 9026-514
In-service cleaning of cooling water systems - 64552R/36

DRED 20.12.77 VEB ARZNEIMITTEL DRESDEN B02 D16 =SF 7803-930
Recovering ergot alkaloid(s) from culture suspension - 54811B/30

DSOM- 13.12.77 DSO MLECHNA PROM D13 #FR 2411-571
Accelerating white cheese prodn. from milk - 45884B/25

•DUAN/ 27.04.78 DUAN L D13 *DL -136-340
Liquid mixing system for beverages - 69992B/39

EBAI 07.12.73 EBARA INFILCO KK D15 J01 =J7 9025-749
Removal of phosphate from waste water - 13416Y/08

•EBAI 01.02.78 EBARA INFILCO KK D15 *J5 4104-639
Treating sludge e.g. from sewage treatment - 70680B/39

•EBAI 01.02.78 EBARA INFILCO KK D15 *J5 4104-647
Phosphate removal from liq. e.g. sewage - 70682B/39

•ECOR- 14.03.78 ECO-RESEARCH LTD A88 D15 *DT 2909-846
Flexible down pipe in biological sewage treatment plant - 70279B/39

•EFRE/ 06.10.75 EFREMOV V V D13 *SU -639-512
Agricultural products e.g. fruit and vegetables preservation - 71183B/39

•EISA 31.01.78 EISAI KK B04 D16 *J5 4105-222
Solid preparations of lysozyme - 70781B/39

ELEK- 10.02.78 ELEKTRO-DAHLEN AB D11 =NO 7900-429
Baking oven with air circulation fan - B/39

•ELEK- 10.02.78 ELEKTRO-DAHLEN AB D11 *SW 7801-548
Baking oven with air circulation fan - B/39

ELIL 20.10.77 ELI LILLY & CO B03 C02 D13 E13 =DK 7804-659
Antibiotics 20-deoxy-narasin and 20-deoxy-epi-17 narasin - 19939B/10

•ELPA 19.05.78 EL PASO PROD CO D13 E15 *US 4168-280
2-Hydroxy-2-cyclopentene-1-one synthesis from glutarate di:ester - 71627B/39

ENZU 03.10.75 ENZINGER UNION WERK AG D15 =DS 2544-198
Alkaline beverage container washing wastes - 25444Y/15

•ENZY- 05.05.78 INST ENZYMOL & TECH D16 (D13) *DL -136-424
Determining microorganism suspension decomposition - 70022B/39

ERAP 08.03.78 SOC NAT ELF AQUITAI A28 C03 D15 F06 (A87 A91) =DT 2908-940
Addition polymer with lateral beta-hydroxy poly:sulphonium gps. - 66337B/37

ERAP 08.03.78 SOC NAT ELF AQUITA A28 C03 D15 F06 (A87 A91) =NL 7901-768
Addition polymer with lateral beta-hydroxy poly:sulphonium gps. - 66337B/37

ESCH/ 14.03.78 ESCHLER M B07 D13 #DT 2811-061
Product e.g. minced meat sterilisation and preservation - 72859A/41

•ESSE= 06.01.77 ESSENTIAL OILS CULT D23 *SU -639-923
Extraction of ethereal oils from rose petals - 71326B/39

ESSO 15.12.77 EXXON RES & ENG CO D15 J01 =FR 2411-630
Regeneration of anion and cation exchanger resins - 47439B/26

FARB 09.03.77 BAYER AG D18 E31 (E34) =US 4168-240
Chromium tanning material and sodium sulphate deca:hydrate prepn. - 67216A/38

FARB 15.12.77 BAYER AG B07 C03 D16 E19 =FR 2411-889
Stable microorganism preparations for degradation of organic material - 20031B/11

FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =SF 7803-857
Water-soluble amido-poly:amine cpds. for use in paper mfr. - 47346B/26

FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =SF 7803-858
Water-soluble amido-poly:amine cpds. used in paper mfr. - 47343B/26

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =BR 7900-892
Azulminic acid stabilised with carbonyl cpds. - 61658B/34

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =BR 7900-894
Modified azulminic acid contg. amino and carboxyl gps. - 61659B/34

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =DK 7900-592
Modified azulminic acid contg. amino and carboxyl gps. - 61659B/34

FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =DK 7900-593
Azulminic acid stabilised with carbonyl cpds. - 61658B/34

FARB 08.03.78 BAYER AG A60 B02 C02 D22 =DT 2810-083
Heterocyclyl-carbonylamino-acetamido-penicillin derivs. - 68416B/38

•FARB 17.03.78 BAYER AG D25 E33 *DT 2811-717
Comminution of white toner used in washing powder - 70211B/39

FARH 13.08.71 FARBWERKE HOECHST D25 E23 =J7 9026-573
Benzofuran derivs - 13082U/10

ARH 22.11.73 HOECHST AG A96 D22 (A11) =IT 1032-136
Water-absorbing water-insoluble cellulose ethers - 37847W/23

ARH 22.03.74 HOECHST AG D25 E11 =IT 1032-365
Tert methyl phosphine oxides from corresp hydroxymethyl phosphine - 67296W/41

ARH 19.12.77 HOECHST AG A97 D25 E11 =FR 2411-886
Washing powder with improved detergent auxiliary - 45714B/25

ARH 19.12.77 HOECHST AG A97 D25 E11 =SF 7803-854
Washing powder with improved detergent auxiliary - 45714B/25

ARH 11.02.78 HOECHST AG D15 =DK 7900-539
Sewage purification with admixed sludge in activation reactor - 61636B/34

ARH 11.02.78 HOECHST AG D15 =DK 7900-540
Sewage purification with admixed sludge in activation chamber - 61635B/34

ARH 11.03.78 HOECHST AG D13 E12 =DT 2810-702
Potassium sorbate granulation - 68433B/38

ARH 15.03.78 HOECHST AG D15 J04 =BE -874-869
Organic cpd. carbon determination in water - 70181B/39

ARH 15.03.78 HOECHST AG D15 J04 *DT 2811-135
Organic cpd. carbon determination in water - 70181B/39

ARH 15.03.78 HOECHST AG D15 J04 =GB 2016-688
Organic cpd. carbon determination in water - 70181B/39

ARM= 08.02.78 FARM ANIMALS REARIN D13 #DK 7800-580
Pasteurising and cooling plant for milk - 58086B/32

EIZ/ 12.09.77 FEIZIEV G K D15 *SU -643-432
High speed low cost desalination of water - 71483B/39

IRM 25.01.78 FIRMENICH SA C03 D13 #J5 4105-082
Reducing piglet weaning period and increasing growth rate - 86036A/47

MCC 03.10.77 FMC CORP D25 E13 F06 =GB 2016-541
Bleaching compsns. contg. (N)-sulphonyl-imidazole(s) - 70480A/39

MCC 25.01.78 FMC CORP D15 #J5 4104-644
Eliminating cyanurate cpds. from waste water - 56782A/32

ORM- 18.10.76 FORMAX INC D14 =CA 1062-085
Cover for patty moulding machine - 64967A/36

ORM- 14.11.77 FORMAX INC D12 =US RE30-096
Moulded food products - 46004U/33

REU 31.01.78 FREUNDENBERG C A96 D21 =J5 4105-238
Hair- and skin-care cosmetic - 61583B/34

RIT- 23.06.66 FRITZSCHE DODGE & O D23 E19 *US 4168-248
Modified perfume compsns. - 71609B/39

RIT- 04.08.75 FRITZSCHE DODGE & O B07 D13 E13 (D18) =CA 1062-269
Alkyl dihydro hydroxy alkylidene oxo alkyl furan carboxylates - 13242Y/08

RLU- 04.11.74 FRANCE LUZERNE D13 =SU -640-636
Protein extraction from leafy green vegetation, esp. lucerne - 81626X/44

UJI/ 10.05.75 FUJISHIMA D D13 E36 =J7 9025-909
Reductive bleaching with sulphurous acid gas - 97298X/52

GABE/ 19.04.77 GABELEVA L P B02 D21 *SU -639-881
Hexa:methylene amide of carbonic acid prepn. - 71306B/39

GALV- 20.03.74 GALVA SPA D15 *IT 1032-192
Prefabricated biological purifier - B/39

GATI/ 15.12.77 GATINEAU J A G D14 *FR 2411-576
Steam peeling of fruit and vegetables esp. potatoes - 70308B/39

GERK 27.07.76 GERLACH E GMBH C03 D13 (D17) =DS 2633-659
Sheet material prepn. from beet root pulp, esp. sugar beet - 79455Y/45

GIRE= 18.04.77 GIREDMET RARE METAL D15 E11 *SU -640-182
Waste water di:alkyl-phosphoric acid determination - 71399B/39

GIUL 17.03.78 GIULINI CHEMIE GMBH D25 E33 F06 (D15) *DT 2811-665
Wet-granulating alkali aluminium ion exchanger - 70203B/39

GOLD/ 22.09.76 GOLDYAK A A D11 *SU -639-503
Bread-baking oven with steam-moistening attachment - 71174B/39

GOUP/ 02.05.69 GOUPIL J J A37 B07 D21 (A96) =DS 2021-356
Mixing dental compounds - 82121R/44

GROT/ 26.05.78 GROTHE P D12 *DL -136-697
Carcass scapula extraction device - 70092B/39

GROT/ 26.05.78 GROTHE P D12 *DL -136-698
Carcass scapula extraction device - 70093B/39

HAAS/ 17.12.70 HAAS F D13 =SU -639-417
Creme -filled wafer cone - 43182T/27

HAGG 30.08.76 HAG AG D13 =US 4168-324
Coffee with reduced irritant content - 90245Y/51

HAMA- 27.04.77 HAMADA FOODS CHEM I D13 *US 4168-321
Tablet-shaped press-formed sweet - 71646B/39

HARN 11.03.78 HARTMANN P AG A83 D22 F07 =DT 2810-680
Disposable napkin folding into breeches - 52577B/29

HARN 11.03.78 HARTMANN P AG A83 D22 F07 =NL 7901-498
Disposable napkin folding into breeches - 52577B/29

HASH/ 15.07.74 HASHIMOTO S D15 =J5 1010-661
Activated sludge process control - 71010B/39

* HASH/ 15.07.74 HASHIMOTO S D15 *J7 9025-751
Activated sludge process control - 71010B/39

HASH/ 18.02.75 HASHIMOTO S D15 =J5 1094-664
Advanced treatment of sewage - 71019B/39

* HASH/ 18.02.75 HASHIMOTO S D15 *J7 9026-104
Advanced treatment of sewage - 71019B/39

HAUN 16.07.71 HAUNI-WERKE KORBER KG D18 =DS 2135-637
Tobacco moisturizing and additive treatment - 41480W/25

HAYA/ 24.02.70 HAYASHIBAKA K D17 E13 (D11) =IT 1032-009
Oligosylfructose prepn - 59309S/37

HAYA/ 14.05.71 HAYASHIBARA K B03 D16 #IT 1032-013
Glucose-6-phosphate prepn - 70500S/44

* HAYB 09.03.78 HAYASHIBARA BIOCHEM B04 D13 (D16 D21) *DT 2909-093
Syrup contg. oligosaccharide(s) with fructose terminal gps. - 70259B/39

* HEAT= 25.10.76 HEAT INSUL ACOUSTIC D15 J04 *SU -638-880
Device for softened water quality determn. - 71154B/39

HEBE- 31.01.69 HEBENSTREIT GMBH D11 =DT 1967-237
Waffle plates and system for providing a - 59597R/34

* HEIN/ 17.03.78 HEINDL A D16 *DT 2811-782
Accelerated hop cone drying - 70216B/39

HENK 15.10.71 HENKEL KG AUF AKTIEN D18 E13 F08 =DS 2151-409
Water-proofing of (imitation) leather - 24351U/18

HENK 18.06.73 HENKEL KG AUF AKTIEN D25 E17 =SU -639-458
Nonionic ethoxylated products for washing compsns. - 00028W/01

HENK 11.06.76 HENKEL KG AUF AKTIEN D23 E17 =GB 1553-487
Methyl-alkyl-alkanoic acid ester perfumes - 00233A/01

HENK 27.12.77 HENKEL KG AUF AKTIEN D21 E24 =J5 4105-239
Oxidative hair dyes - 51023B/28

HENK 27.12.77 HENKEL KG AUF AKTIEN D21 E24 =SF 7803-717
Oxidative hair dyes - 51023B/28

HENK 11.03.78 HENKEL KG AUF AKTIEN D11 =DT 2810-601
Prodn. of yeast active in acid doughs - 68613B/38

HENK 11.03.78 HENKEL KG AUF AKTIEN D11 =NL 7901-295
Prodn. of yeast active in acid doughs - 68613B/38

HERT/ 20.01.78 HERTTUA K D13 =GB 2016-519
Drink prepd. by water extn. of wood bark and sap - 39012B/21

HIEJ 23.07.76 HITACHI PLANT ENG CONST A35 D15 J09 =J7 9026-242
Heat-decomposing carbohydrate subsistence waste - 20730A/11

* HIRA/ 30.01.78 HIRANUMA A D13 (D16) *J5 4105-264
High quality pickled vegetables prodn. - 70796B/39

* HIRA/ 03.02.78 HIRANUMA Y D11 *J5 4105-255
Bread mfr. using flour and rice powder - 70795B/39

* HITA 06.02.78 HITACHI KK D15 *J5 4104-649
Removal of ammoniacal from waste water - 70683B/39

* HITF 06.02.78 HITACHI SHIPBLD ENGG KK D15 *J5 4105-846
Treatment of moisture-rich sludge and muddy water - 70823B/39

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-428
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-429
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-430
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-431
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-432
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-433
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-434
Palladium contg. magnetic alloy - 60129B/33

HITK 00.00.78 HITACHI METAL KK D21 L03 M26 =J5 4104-435
Palladium contg. magnetic alloy - 60129B/33

HITK 06.02.78 HITACHI METAL KK D21 L03 M26 =J5 4104-427
Palladium contg. magnetic alloy - 60129B/33

* HOFF 02.04.74 HOFFMANN-LA ROCHE INC B03 C02 D16 *US 4168-272
Homologues of Lasalocid A - 71621B/39

HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =DK 7900-611
Trestatin amino sugar derivs. - 61777B/34

HUBE 20.12.77 HUBER J M CORP D21 E33 =SF 7800-807
Abrasive silica compsn. for dentifrice paste - 67037A/38

ICIL 11.08.75 IMPERIAL CHEM INDS LTD A97 D25 H03 (A25) =GB 1553-212
Detergents contg. ethoxylated alcohol or alkylphenol - 15842Y/09

ICIL 23.12.77 IMPERIAL CHEM INDS LTD C03 D22 G02 H08 (D15 G03) =SF 7803-970
1-Thiocyanato-8-substd. naphthalene biocides - 47159B/26

ICIL 08.05.78 IMPERIAL CHEM INDS LTD C02 D13 =SF 7803-923
Treatment of ruminants with aplasmomycin or related cpds. - 52996B/29

IDEK 30.05.75 IDEMITSU KOSAN KK D15 H05 =J7 9026-108
Waste water treatment by activated sluge process - 04860Y/03

* IKIS/ 06.02.78 IKI S D15 *J5 4105-848
Fine coal powder oxidn. bed for waste water treatment - 70824B/39

* INAL- 22.01.71 COMB IND ALIMENTARE D13 *IT 1032-008
Press for removing whey in cheese prodn. - B/39

INFL 22.07.74 INT FLAVORS FRAGRANCES B05 D13 E17 (D18 D23) =DS [illegible]
Compsns contg unsatd 2 methyl pentenoic acids and esters - 10541X/06
*INFL 27.03.77 INT FLAVORS & FRAGR INC D18 E15 *US 4167-947
Modifying aroma and flavour of smoking compsns. - 71543B/39
INGR- 19.12.77 INGREDIENT TECHN CO D17 =FR 2411-890
Crystallisation of sugar from supersaturated solns. - 47612B/26
INGR- 19.12.77 INGREDIENT TECHN CO D17 =SF 7803-905
Crystallisation of sugar from supersaturated solns. - 47612B/26
INME- 15.12.77 IND MECC CGZ ALIMEC D12 =FR 2411-569
Moulding press for meat, esp. boneless ham - 49352B/27
*INOZ 03.02.78 INOUE JAPAX RES INC D21 L02 *J5 4105-110
Ceramic shaped body prodn. - 70719B/39
INRG 18.07.69 INST NAT RECH AGRON A14 D13 (A15 A97) =IT 1032-005
Milk and milk product treatment in cheese- - 04125S/02
INSF 21.03.78 INST FRANCAIS DU PETROLE A97 D15 E17 H03 (D25) =GB 2016-509
Cleaning polluted surfaces, esp. water covered with oil - 68136B/38
INTE- 13.05.75 INTEROX CHEM LTD D25 E34 =GB 1553-505
Stabilised sodium percarbonate mfr. - 43394Y/25
INTT 06.02.78 ITT INDUSTRIES INC D15 F09 =SW 7900-866
Dual bacteria-contg. waste water e.g. sulphite liquor treatment - 60158B/33
ISTS 30.09.77 IST SIEROTER VACC SCLAVO B04 D16 =DS 2822-539
Adenylate kinase inhibitor, esp. for creatine kinase determn. - 28081B/15
ITEM- 14.10.76 ITEM SPA IMPIANTITE D15 =GB 1553-335
Spray dryer for sludge from waste water - 12356A/07
*IZAW/ 15.06.77 IZAWA G A97 D22 E14 *J5 4004-891
Deodorising sheet for beds, shoes, bags etc. - 70422B/39

*JAOR 03.10.77 JAPAN ORGANO KK D15 J01 K06 *J5 4051-977
Preventing noxious ions leakage into treated water - 70432B/39
*JAPG 01.02.78 NIPPON ZEON KK D15 J01 *J5 4103-787
Liq. purificn. unit for blood dialysis, reverse osmosis, etc. - 70515B/39
JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A97 D18 F04 J01 =SF 7803-283
Cigarette filter contg. cellulose di:acetate and cellulose fibres - 04098B/03
JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A88 D18 F04 (A11) =SF 7803-541
Mfg. synthetic fibre sheet for cigarette filter tips - 18063B/10
*JOHJ 27.01.78 JOHNSON & JOHNSON D22 *GB 2016-262
Disposable diaper with reinforced corners - 70356B/39
JOHJ 21.02.78 JOHNSON & JOHNSON A97 D22 F09 =BR 7901-132
Absorbent pad for disposable napkins, sanitary towels etc. - 63155B/35

KANF 14.11.73 KANEGAFUCHI CHEM KK D16 H04 =IT 1032-120
Increasing growth rate of yeast culture - 24211W/15
KANF 30.03.74 KANEGAFUCHI CHEM KK D16 =IT 1032-489
Cell-free yeast culture medium as yeast growth promoter - 78084Y/44
KAOS 19.11.75 KAO SOAP KK A97 D25 E34 F06 (A25) =J7 9026-232
Liq. bleaching agent compsn. - 47790Y/27
KAOS 11.04.77 KAO SOAP KK D23 E15 =US 4168-389
1-Alkoxy-tri:cyclo-undecane perfume component - 76804A/43
KAOS 06.03.78 KAO SOAP KK A96 D21 E16 (A14 E17) =DT 2907-019
Shampoo contg. anionic surfactant, alkanol:amide and polyacrylic acid - 66687B/37
*KARP/ 25.09.72 KARPINSKII YU I D15 H05 J01 *SU -639-818
Removing petroleum from bilge water by froth flotation separator - 71268B/39
KART- 06.01.78 KARTRIDG PAK CO D12 J04 =US 4168-431
Determining the fat content in meat products - 52826B/29
KELC 11.03.74 KELCO CO A97 D16 H01 =IT 1032-245
Clarifying aq. xanthan rubber solns - 64255W/39
*KEPI= 10.05.77 KAZAKH EPIDEM MICRO B04 D16 *SU -639-941
Detection of influenza virus infection - 71336B/39
*KHAB= 11.02.77 KHABAROVSK RAIL ENG C03 D22 F09 *SU -639-705
Protective compsn. for wooden railway sleepers - 71254B/39
*KHLA= 28.03.75 KHARK LABOUR HYGIEN D22 *SU -640-741
Industrial working area air cleaning - 71426B/39
*KINA/ 03.05.76 KINAREVSKAYA A I A11 D13 *SU -639-508
Casein prodn. by coagulation from skimmed milk - 71179B/39
KLOC 22.12.77 KLOCKNER WERKE AG D15 =SF 7803-230
Clarified sewage sludge vessel - 60568A/34
*KNAF 09.03.78 KNAUF WESTDEUT GIPS GMBH D15 L02 *DT 2810-173
Solidifying aq. sludge or pasty waste - 70142B/39
KOCH- 16.02.77 FA KOCH P D23 =DS 2806-182
Multicoloured candle cast in one mould - 62118A/35
KOKC 29.07.75 KOKOKU CHEM IND KK A97 D15 J01 (A21) =J7 9025-910
Fuming nitric acid compsn. for toxic metals recovery - 19171Y/11
KOKC 20.02.76 KOKOKU CHEM IND KK A91 D15 J01 =J7 9026-234
Nitrohumic acid type sequestering agent prepn. - 71342Y/40
KOPP- 10.02.78 KOPPENS MACH FAB D12 =NO 7900-338
Device for pressing e.g. ground meat into disc shaped prod. - 40645B/22
KOPP- 10.02.78 KOPPENS MACHINEFAB D12 =SW 7901-109
Device for pressing e.g. ground meat into disc shaped prod. - 4064
KOPS 15.12.77 KRUPP-KOPPERS GMBH D15 H09 =FR 2411-805
Coke oven gas waste water desulphurisation - 22151B/12
KREI- 15.12.76 KREISSPARKASSE RECK D15 =DS 2656-886
Slurry dewatering and compression device - 45974A/26
KREI/ 31.07.68 KREIBERG O A D15 =DS 1938-465
Water vaporiser with directed steam jet - 17089S/10
KRFT 27.10.69 KRAFTCO CORP D13 =IT 1032-006
Milk products fabrication - 30172S/17
KRFT 19.08.70 KRAFTCO CORP D13 =IT 1032-015
Controlled thermal treatment appts - 11062T/07
*KULS- 14.03.78 KULSYRE-& TORISFABR D12 *GB 2016-257
Preserving freshly caught fish - 70354B/39
KURE 14.12.77 KUREHA KAGAKU KOGYO D12 E35 #FR 2411-625
Removing malodorous basic components from gases - 42594B/23
KUST 05.01.78 KUSTERS E D15 F07 J01 =SF 7803-945
Self-cleaning liq. filter system - 53126B/29
KYOW 28.10.76 KYOWA HAKKO KOGYO K B07 D13 G03 (G06) =
1553-548
Inductively heat treating gelatin - 33772A/19
*KYOW 27.01.78 KYOWA HAKKO KOGYO KK C03 D13 *J5 4105-081
Breeding young fish, young shell etc. - 70716B/39
KYOX 25.03.74 KYOWA GAS CHEM IND D15 E37 =J7 9026-198
Cyanide determn. in waste waters contg. oxidising agents - 78032Y/

LAND- 16.12.77 VEB KOMB LANDMASCHI D13 =FR 2411-572
Increasing dry solids content of milk products - 39071B/21
*LANG/ 13.02.78 LANGER E W D22 *DK 7800-634
Composite product with varying porosity - B/39
*LANG/ 10.05.79 LANG P D21 *BE -876-165
Visual reminder directing attention esp. to dental hygiene - 69961B/3
*LECO= 28.05.74 LENGD COMMUNAL RES D15 J01 *SU -639-571
Natural and waste water filter - 71200B/39
*LECO= 06.06.77 LENGD COMMUNAL RES D15 *SU -639-573
Distribution system for filters used for aq. waste purificn. - 71202B/39
*LEDA= 11.05.76 LENGD BR DAIARY IND D16 (D13) *SU -639-939
Estimating Streptococcus faecalis content of milk prods. - 71334B/39
*LEEN= 03.06.77 LENGD ENG-CONS INST D15 *SU -643-436
Suspended organic and mineral cpds. in faecal waste water - 71486B/
*LEES/ 02.02.78 LEES P B D22 F04 *GB 2016-277
Limb traction member securing tubular bandage - 70357B/39
LEIT 18.10.75 LEITZ WETZLAR E GMB D22 M13 =US 4168-326
Coating metallic and nonmetallic prostheses with bioactive substance
11223Y/07
*LIFF/ 06.03.78 LIFFERS G D18 *DT 2809-566
Fur trimming knife - 70126B/39
*LIOY 06.02.78 LION FAT & OIL KK A11 D21 *J5 4105-190
Prodn. of cation-modified starch derivs. - 70771B/39
*LIOY 10.02.78 LION FAT & OIL KK D25 E19 (E37) *J5 4106-509
granular cleaner prodn. - 70971B/39
*LOBO/ 18.01.78 LOBO A R D11 *BR 7801-139
Gas oven for roasting cassava - B/39

MACA/ 08.09.76 MACASKILL D C04 D17 J09 L02 #CA 1062-007
Two stage fluid bed calcination - 96005X/51
MAGN- 19.12.77 MAGNUSON ENG INC D14 =FR 2411-575
Fruit and vegetables peeling appts. - 05829B/03
*MATV 17.02.78 MATTEL INC D13 *BR 7900-371
Moulding material for use with toy moulding machine - B/39
MAYO/ 03.02.78 MAYO A R D17 =BR 7900-460
Sugar cane mill with rake feed conveyor - 29580B/15
MAYR/ 01.04.77 MAYR A B04 C03 D16 =DL -136-701
Compsn. for treatment of Herpes zoster - 55129A/31
MCCA/ 28.04.75 MCCARTNEY J S D22 #GB 1553-282
Protective dressing allowing air to reach a wound - 25568A/14
*MCCO/ 12.08.77 MCCORMICK J B D13 *US 4167-899
Disposable unitary coffee maker - 71536B/39
*MCDO/ 29.09.77 MCDONALD J G D22 G02 (D23) *US 4168-275
Oil-base paint extender and burn emollient - 71624B/39
*MEDI- 26.05.76 MEDINA GARVEY ACEIT D13 *US 4168-325
Pimento paste for stuffing olives - 71647B/39
*MEDO= 27.01.76 MEDOBORUDOVANIE D22 *SU -639-553
Sterilisation of medical equipment - 71191B/39
*MEDO= 22.03.77 MEDOBORUDOVANIE D22 *SU -639-554
Sterilisation of medical materials - 71192B/39
*MEDO= 11.08.77 MEDOBORUDOVANIE D22 *SU -639-555
Disinfection chamber for medical establishments - 71193B/39
*MEIJ 27.01.78 MEIJI SEIKA KAISHA B04 D16 *J5 4103-801
Antibiotic SF-1993, prepd. from Streptomyces strain - 70528B/39
*MEIP 02.02.78 MEIJI MILK PRODS KK D15 (D13) *J5 4104-655
Waste water treatment using activated sludge - 70685B/39
*MENI/ 27.02.73 MENICAGLI I D18 *IT 1032-019
Cigarette filter with aromatising, cooling and filtering activity - B/39

MERI 08.07.77 MERCK & CO INC B02 D16 =US 4168-202
Antibacterial thiamycin analogues - 82381Y/46

MERI 17.11.77 MERCK & CO INC B02 C02 D13 E13 (D22) =US 4168-314
Pen-2-em-3-carboxylic acid and derivs. and 1 sulphoxide(s) - 44337B/24

MERI 10.03.78 MERCK & CO INC A97 D16 =NL 7901-916
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37

METH- 04.09.69 METHODIST HOSPITAL A15 D22 (A96) =DS 2042-738
Treatment of metal implants to hinder - 19353S/11

MIES- 01.04.70 MIES FILTER PRODS D12 =IT 1032-010
Chicken deep-fryer re-uses oil without - 85143R/46

MILE 06.03.78 MILES LABORATORIES INC D13 =GB 2016-255
Preparing products analogous to cheese - 50906B/28

MILE 06.03.78 MILES LABORATORIES INC D13 =NL 7901-746
Preparing products analogous to cheese - 50906B/28

MITD 31.01.78 MITSUI SEITO KK A97 D16 *J5 4105-286
Fixed microbial enzyme prepn. - 70797B/39

MITK 02.02.78 MITSUI TOATSU CHEM INC D15 E19 *J5 4104-645
Treating liq. from catalytic oxidn. of waste water - 70681B/39

MITN 01.02.78 MITSUBISHI GAS CHEM IND D16 *J5 4105-287
Cultivating methanol-utilising microbes - 70798B/39

MITN 06.02.78 MITSUBISHI GAS CHEM IND B05 D16 *J5 4105-292
Fermentative prodn. of coenzyme/Q-10 - 70802B/39

MITO 02.02.78 MITSUBISHI HEAVY IND KK D15 E36 *J5 4104-638
Removing residual chlorine from cooling water - 70679B/39

MITO 08.02.78 MITSUBISHI HEAVY IND KK D15 E36 J01 *J5 4106-070
Waste water treatment, from lime-gypsum process desulphurising appts. - 70860B/39

*MITR 30.01.78 MITSUBISHI RAYON KK A97 D16 *J5 4105-289
Insolubilised enzyme prepn. - 70800B/39

*MITT- 00.00.76 MITTEX AG D15 J01 *DT 2810-269
Water recovery from the atmosphere, esp. in desert climate - 70144B/39

MITU 05.08.75 MITSUBISHI CHEM IND KK D15 =J7 9026-112
Batchwise treatment of waste water - 22452Y/13

*MITU 01.02.78 MITSUBISHI CHEM IND KK B01 D16 *J5 4105-294
Sepg. androsta-3,17-di:one(s) from steroid impurities - 70803B/39

*MLFO= 05.04.76 MOLD FOOD IND RES D13 E17 *SU -639-504
Sublimation drying of fruit puree - 71175B/39

MOEN- 09.09.70 MASCHINENFAB MOENUS A31 D18 =SU -639-459
Endless band cutting machine - 20092T/13

*MOEN= 07.02.77 MOSC ENG CONS INST D15 *SU -639-814
Removing drinking water purificn. coagulant from slime - 71266B/39

*MOLL/ 15.03.78 MOLL H G D15 *DT 2811-800
Crude water treatment - 70217B/39

MOLN 21.12.77 MOLNLYCKE AB D22 =SF 7803-907
Intravaginal period sanitary tampon with extraction cord - 47149B/26

MOLS- 16.12.77 MOLSON COMPANIES LT D16 =FR 2411-887
Rapid brewing of malt drinks - 47613B/26

MORG 18.03.75 MORINAGA MILK KK D15 (D12 D17) =J7 9026-105
Waste water treatment - 84178X/45

*MORI/ 28.09.77 MORI Z D25 E19 G04 *J5 4049-987
Prodn. of liq. surfactant compsn. for dry-cleaning - 70429B/39

MORI/ 24.02.78 MORI T B04 D13 =GB 2016-272
Foodstuff with strengthening effect - 66547B/37

*MOSO= 18.06.73 MOSOCHISTVOD EFFLUE D15 J04 *SU -640-169
Sample-extractor of effluent in open channels - 71395B/39

MRSC 27.02.74 MARS LTD C03 D13 =US 4168-322
Feed products from whey protein - 46108W/28

MRSC 17.06.76 MARS LTD C03 D13 =US 4168-328
Stabilisation of protein foodstuff of high water content - 90052Y/51

MULL- 28.07.75 FA MULLER H D13 (D16) =CA 1062-187
Protein prepn. from wheat gluten - 14935Y/09

NAGA 23.11.73 VEB KOMBINAT NAGEMA D13 #IT 1032-042
Continuous chocolate paste prodn. - 41950V/23

*NAIG 08.02.78 NAIGAI INK SEIZO KK A97 D22 E24 G02 *J5 4106-308
Marking ink used as sterilisation indicator - 70902B/39

*NAKA- 07.02.78 NAKANO SUMISE KK D25 E19 *J5 4105-108
Washing process for oil removal - 70718B/39

*NAKA- 07.02.78 NAKANOSUMISE KK D22 E12 (E17 E36) *J5 4105-226
Sterilising compsn. for food and cooking tools - 70783B/39

*NALC 10.11.76 NALCO CHEMICAL CO A97 D15 E11 *US 4168-230
Scale prevention in cooling water systems - 71597B/39

NATT 19.11.73 NAT STARCH & CHEM CORP A96 D21 E13 =IT 1032-133
Hair shampoo and conditioner - 36292W/22

NATT 15.12.77 NAT STARCH & CHEM CORP A11 D17 =FR 2411-847
Prepn. of highly substd. polysaccharide deriv. - 93173A/51

*NAUM/ 15.06.77 NAUMOV YU A D21 E13 (D22) *SU -639-870
Bis-n,n-hexa:methylene-urea insect repellent prepn. - 71298B/39

NEST 14.01.71 SOC PRODS NESTLE SA D13 =IT 1032-016
Edible capsule - 35485T/22

NEST 22.10.73 SOC PRODS NESTLE SA D13 E17 =IT 1032-091
Cheese flavouring contg. a mixture of ketones and esters - 20905W/13

NEST 01.04.74 SOC PRODS NESTLE SA D13 =IT 1032-247
Fruit-contg processed cheese prodn - 67587W/41

NEST 20.03.75 SOC PROD NESTLE SA D13 =DS 2522-508
Solubilising casein by wetting-out then adding solubilising agent 68727X/37

NEST 06.02.78 SOC PROD NESTLE SA D13 =SW 7900 893
Improving consistency of reconstituted purees esp. of vegetables 47198B/26

*NEST 16.03.78 SOC PROD NESTLE SA D16 (D13) *DT 2907-721
Stable plasmid- contg. Lactobacillus species culture prodn. - 70242B/39

*NEUM/ 15.03.78 NEUMAIER R C03 D13 (D16) *DT 2811-208
Straw decomposition to protein-contg. feedstuffs - 70187B/39

NEVI/ 21.04.75 NEVINS A J D21 E33 (E34) =CA 1062-158
Endodontic compsn - 57513X/30

NHYD 19.03.74 NORSK HYDRO A/S C03 D13 E33 =IT 1032-330
Clacium phosphates of animal feed quality - 52431W/32

NIHS 04.06.76 NIPPON SURFACTANT KK D25 E13 =J7 9025-930
Non-polluting detergent for the home - 07475A/04

NIHS 17.01.77 NIPPON SURFACTANT KK D21 E17 (D17 E13) =J7 9026-246
Shampoo contg. starch sugar and fatty acid ester(s) - 64444A/36

NIIG 13.08.75 NIIGATA ENG KK D15 =GB 1553-392
Aerobic compost fermentation from organic sludge - 14994Y/09

NIKE- 13.02.78 NIKEX NEHEZIPARI D15 =BR 7900-898
Filtration and ion exchanging column - 61816B/34

NIPC 24.12.76 NIPPON CHEM IND KK C03 D22 E14 F09 =J7 9026-254
Adhesive for use e.g. in plywood prodn. - 62397A/35

*NIPK 31.01.78 NIPPON KAYAKU KK A97 C03 D13 (A14) *J5 4105-078
Tackifier for animal feeds - 70715B/39

*NIRA 01.02.78 UNITIKA KK A96 D22 *J5 4104-687
Protective materials for wounds - 70687B/39

*NIRA 03.02.78 UNITIKA KK A91 D15 J01 M25 *J5 4104-651
Recovery of valuable prods. - 70684B/39

NISH- 11.06.76 NISHIMATSU KENSET D15 E31 J01 M14 =J7 9026-228
Treatment of waste contg. hexavalent chromium - 09121A/05

*NISW 10.02.78 NISSHIN SEIYU KK D21 *J5 4106-415
Partially esterified product, used in a cosmetic - 70917B/39

*NITL 07.02.78 NITTO ELECTRIC IND KK D15 *J5 4105-852
Sepn. of foods, drugs etc. from soln. - 70827B/39

*NITO 01.02.78 NITTO BOSEKI KK D15 *J5 4103-780
Treating waste water from regeneration of anion exchange resin - 70509B/39

NITO- 13.01.77 JAPAN TOBACCO AND SAL A97 D18 F04 (A18 A35) =GB 1553-357
Tobacco smoke filters - 57089A/32

*NIZH/ 01.06.76 NIZHARADZE A N D16 (D13) *SU -639-935
Microbiological prodn. of vinegar - 71332B/39

NMHB 06.02.78 NORDISCH MASCH R BAADER D12 #SW 7801-333
Fish skinning machine - 35308B/19

*NOGY- 00.00.68 NOGYO KIKAIKA KENKY D16 J01 *J7 9026-511
Deodoriser, e.g. gas from drier of fowl droppings - 71055B/39

*NOGY- 03.08.68 NOGYO KIKAIKA KENKY D16 J01 *J7 9026-512
Deodoriser for removing foul odours from gas - 71056B/39

*NOMU- 08.02.78 NOMURA MICRO SCIENC D15 J01 *J5 4106-079
Water filtering appts. using macromolecular membrane filter - 70869B/39

*NONB= 13.01.77 NON BLACK EARTH AGR C03 D13 *SU -639-509
Carbohydrate substitute fodder additive for non ruminants - 71180B/39

*NORD- 08.02.78 NORDISKA VATTENPROJ D15 *SW 7801-463
Microbe culture appts. for biological purificn. of waste water - B/39

NOVO 23.12.75 NOVO INDUSTRI A/S D16 =CA 1062-186
Papain soln. for preventing clouding of beer when cold - 45237Y/26

*NSEN= 18.03.66 NOVOS ENG-CONS INST D15 J01 *SU -639-576
Filtering material for water purification - 71204B/39

OAKE- 10.03.78 E T OAKES LTD A31 D14 J02 =NL 7901-927
Mixer having concentric rings of axial mixing elements - 52580B/29

*OLIN 20.03.78 OLIN CORP A41 C04 D15 E16 (E34 E36) *US 4168-299
Hydrolysis of urea to ammonia and carbon di:oxide - 71641B/39

ONTA 08.11.76 ONTARIO RES FOUND D15 =CA 1062-380
Aq. effluent purification - 38768A/22

OPUS- 24.02.78 OPUS CHEM AB D16 E12 (D22) =GB 2016-446
Liquid or tabletted preservative for bacteriological samples - 66558B/37

OREA 22.02.74 L'OREAL SA A96 D21 E24 (E23) =CA 1062-261
4'-N,N-Disubstd. diphenylamines from indoanilines - 59141W/36

OREA 22.02.74 L'OREAL SA A96 D21 E24 =CA 1062-276
Dialkyl aminodiphenyl amine dye compsns - 59139W/36

OREA 30.12.74 L'OREAL SA A96 D21 =CA 1062-161
Hair lacquer and lotion preparations - 54520X/29

OREA 09.09.76 L'OREAL SA D21 E24 =GB 1553-328
(N)-Mesylaminoalkyl amino alkyl phenols - 04114A/03

OREA 16.12.77 L'OREAL SA A96 D21 E13 =FR 2411-606
Cosmetic compsn. for reinforcing the nails - 45689B/25

OREA 19.12.77 L'OREAL SA D21 E17 =FR 2411-607
Compacted nail-polishing compsn. - 47453B/26

*ORSH= 29.12.76 ORSHA MILK COMBINE D13 *SU -640-729
Appts. for edible milk caseinate prodn. - 71421B/39

PAIL/ 15.12.77 PAILLON P D13 *FR 2411-573
Preparing alcohol flavoured sorbets - 70307B/39

PAPC/ 22.04.74 PAPCHENKO A YA D14 *SU -639-513
Controlled electro-plasmolysis of vegetable pulp in food industry - 71184B/39

PARO/ 09.01.75 PAROLAI M L D16 (D13) *IT 1032-200
Vinegar prodn. appts. - B/39

PART- 09.02.78 PARTEK OY AB D15 J01 *SW 7901-112
Preliminary pptn. vessel for purificn. of suspension - B/39

PENT- 23.06.75 PENTAPHARM AG B04 D16 =GB 1553-272
Chromogenic or fluorescent tripeptides - 83127X/45

PERF- 13.03.78 PERFETTI SPA D13 =DT 2908-186
Chewing gum contg. liq. flavoured filling - 49043B/27

PETZ- 12.03.75 MASCH PETZHOLDT J S D13 =SU -639-418
Milk chocolate mass continuous prodn. - 74184X/40

PFIZ 27.03.74 PFIZER INC A96 B04 D16 =IT 1032-467
Stabilized enzyme compsns - 67308W/41

PFIZ 16.12.77 PFIZER INC B03 D13 E13 =FR 2411-837
Erythorbic and ascorbic acid 6-fatty acid mon:ester prepn - 45702B/25

PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =SF 7900-004
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27

PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =SF 7900-005
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27

PHIG 22.03.74 PHILIPS GLOEILAMPEN NV D15 J01 =IT 1032-359
Liq.-liq. extn. system - 65917W/40

PHIL- 02.05.77 PHILADELPHIA COL OS C03 D16 *US 4168-206
Testing antifungal susceptibility of fungus - 71585B/39

PHIP 29.08.77 PHILLIPS PETROLEUM CO D16 *US 4168-201
Improving yeast cell yields - 71584B/39

PIEC 09.03.78 PIERCE CHEMICAL CO B04 D16 *NL 7802-578
Peptide synthesis - 71082B/39

PLAT/ 19.12.77 PLATEAU P D12 *FR 2411-570
Preparing flavoured ham - 70306B/39

POLA 20.03.78 POLAK'S FRUTAL WORKS INC D23 E15 (D21 D25) *BE -874-963
Nitrile cpds. with a 1-methyl-4 isopropyl:cyclohexane carbon skeleton - 69926B/39

POLA 19.03.79 POLAK'S FRUTAL WORKS INC D23 E15 (D21 D25) =GB 2016-462
Nitrile cpds. with a 1-methyl-4 isopropyl:cyclohexane carbon skeleton - 69926B/39

POLL- 24.07.74 POLLOCK INT LTD D16 =CA 1062-185
Improved brewing worts by treating malt etc with polar org cpds - 12450X/07

• PORS/ 01.03.78 PORSTMANN B B04 D16 J04 (D13) *DL -136-746
Indicator soln. for enzymatic glucose determination - 70106B/39

• POTA= 16.05.77 POTATO FOOD PROD C03 D13 *SU -639-511
Potato feedstuff manufacturing process - 71182B/39

• POTT/ 09.11.73 POTTHARST J E D15 *US 4168-211
Vapour compression distillation in tubed heat exchanger - 71588B/39

• POYS/ 25.02.78 POYSER G J D14 *GB 2016-291
Mixer and dispenser for animal foodstuffs - 70359B/39

• PREN/ 22.11.77 PRENE O G E P D22 J04 *SW 7713-179
Equipment for fixing medical samples in formalin soln. - 71523B/39

PROC 29.03.74 PROCTER & GAMBLE CO D22 =IT 1032-471
Self-inflating structures contg. gas evolving reagent - 33910W/20

PROC 27.09.74 PROCTER & GAMBLE CO A97 D23 E33 =CA 1062-120
Phosphate free granules contg submicron calcium carbonate - 29462X/16

PROC 27.09.74 PROCTER & GAMBLE CO A97 D23 E33 =CA 1062-121
Phosphate free granules contg submicron calcium carbonate - 29462X/16

PROC 20.02.75 PROCTER & GAMBLE CO D25 E37 =CA 1062-119
Protected vitreous phosphate detergent additives - 02669Y/02

PROC 06.10.75 PROCTER & GAMBLE CO D13 E17 (D21) =GB 1553-253
Symmetrical diglyceride recovery from glyceride mixt. - 25634Y/15

PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 =DT 2908-990
Glucose prodn. by cellulose acid hydrolysis - 68608B/38

• PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 F01 *DT 2908-991
Glucose prodn. from cellulosic materials - 70256B/39

• QPPP 02.02.78 Q.P. CORP D11 *J5 4105-249
Stable food compsns. - 70794B/39

REAK- 13.03.78 REAKTOR-BRENNELEME D15 E31 K05 M25 =DT 2810-776
Simplified process for recovering uranium cpds. - 52597B/29

RECK 25.07.73 RECKITT & COLMAN PR D16 =IT 1032-065
Reducing the maturing time of sherry type wine - 13043W/08

RENA 27.07.73 REGIE NAT USINES RENAULT D15 =DS 2435-038
Industrial effluent pretreatment - 13018W/08

• RENN- 19.12.77 CENT RENNES-MONTPA D21 *FR 2411-605
Slimming cosmetic compsns. applied to the skin - 70311B/39

RETO 30.08.76 REYNOLDS TOBACCO CO D18 =GB 1553-326
Colouring tobacco substitute with tobacco dust - 00099A/01

RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =DT 2910-074
Contactor for substances in different phases - 68134B/38

RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =GB 2016-540
Sequestrant for washing compsns. contg. peracid salts - 68133B/38

• RIBE/ 23.02.78 RIBEIRO M S F D14 J02 *BR 7801-143
Product mixer for animal husbandry use - B/39

• RICD 29.03.76 RICHARDSON CO D21 E13 *US 4168-302
Hair conditioning compsn. contg. cationic surfactants - 71642B/39

• RIJK- 06.03.78 MACH C RIJKAART BV D14 *NL 7802-448
Rotating roller for feeding crushable stranded prod. from vibrating be - 71080B/39

• RITT/ 26.05.78 RITTER G D11 *DL -136-341
Baking flour mixing system - 69993B/39

• RIZO/ 15.03.76 RIZO E G D15 E31 J03 *SU -639-820
Hexa:valent chromium ions contg. waste water purificn. - 71269B/39

ROLL- 19.12.77 ROLLWASCH ITAL SPA D15 J01 =FR 2411-623
Removal of froth from liq. leaving finishing machine, - 47462B/26

ROLN- 31.03.77 AKAD ROLNICZO-TECHN D13 (D12) =DL -136-330
Heat-stable texturised milk protein meat substitute prepn. - 73140A/41

ROTT/ 28.05.71 ROTTA G A96 D22 (A25) =DS 2225-267
Disinfectant compsn - 78831T/50

RUNG/ 02.11.77 RUNGE D D13 =DL -136-570
Continuous tempering of chocolate mass - 33364B/18

RYBA/ 06.02.78 RYBAKOV V A D23 E17 #J5 4106-411
Higher fatty acid prodn. from olefin - 61597B/34

• SACH/ 13.09.76 SACHAVO M S D16 *SU -639-932
Prodn. of brandy-type spirits - 71330B/39

SAGA 27.01.77 SAGAMI CHEM RES CENT B05 D13 E16 (E14) =DL -136-737
Di:peptide amino acid addition cpds. - 57088A/32

SAKA 10.02.78 OTSUKA PHARM KK B02 D16 =J5 4106-458
Deca:hydro-naphthalene-spiro-benzofuran derivs. - 84059A/47

SAKB 16.07.76 OTSUKA KAGAKU YAKUHIN D23 E13 =J7 9026-548
(3)-Hydroxy-(4H)-pyranone-(4) flavouring agents prepn. - 20776A/11

• SALK/ 17.03.78 SALKIN N A96 C03 D22 (A14) *DT 2910-205
PVP-halogen complex prepn. as stable aq. soln. - 70288B/39

SALK/ 17.03.78 SALKIN N A96 C03 D22 (A14) =GB 2016-480
PVP-halogen complex prepn. as stable aq. soln. - 70288B/39

SAND/ 13.04.76 SANDERSON C H D15 #CA 1062-196
Magnetic treatment of water to reduce scale - 33794X/18

• SANK- 13.03.78 SANKIO CHEM CO LTD B05 D23 E15 *GB 2016-449
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39

SCGR 15.02.78 SOC CHIM GRANDE PAROISSE A25 D22 E16 =BR 7900-879
Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - 68495B/38

SCHE/ 31.12.77 SCHEICHER H D22 L02 =J5 4106-522
Moulding implants, esp. dental implants, from ceramic masses - 33434B/18

SCHM- 14.08.75 SCHMIDT A GMBH D18 =GB 1553-517
Animal hide fleshing plant - 14981Y/09

• SCHM/ 02.05.78 SCHMIDT U D12 *DL -136-329
Fish filleting machine attachment - 69989B/39

SCHN/ 05.08.76 SCHNEIDER F H D23 =CA 1062-118
Rape seed husking process - 12479A/07

SCIE 16.02.78 SCIENCE UNION & CIE B04 D16 =BR 7900-951
Compsn. for treating virus diseases - 68496B/38

SEAR 09.05.69 SEARLE G D & CO B05 D13 E14 =DS 2022-499
Sweetening compn contg l-aspartyl-l-phenyl - 82782R/44

SEAR 04.02.75 SEARLE G D & CO A96 B04 D16 =CA 1062-156
Cytotoxic immunoglobulin preparations - 61881X/33

SEBS- 02.05.74 SEB SA D13 =IT 1032-391
Sorbet prodn in electrically agitated bowl - 64015W/39

SEIB 13.08.75 SEIBU CHEMICAL IND CO D15 =GB 1553-392
Aerobic compost fermentation from organic sludge - 14994Y/09

• SEKI/ 06.02.78 SEKI T A91 D15 *J5 4105-849
Treatment of high COD waste water - 70825B/39

• SEYV/ 16.12.77 SEYVE D D14 *FR 2411-577
Solar heated chamber for drying fruits and roasting grain etc. - 70309B/39

SHEL 30.11.76 SHELL INT RES MIJ BV D25 E19 =GB 1553-386
Refining surface active agent streams - 38473A/22

SHEL 27.12.77 SHELL OIL CO D23 E15 #US 4168-281
1,2-Di:alkyl-3-formyl:alkyl-1-cyclopentanol cpds. - 42515A/24

• SHIE 13.03.78 SHINETSU CHEM IND KK B05 D23 E15 *GB 2016-449
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39

SHIN/ 21.08.76 SHIN S K D18 =GB 1553-490
Cigarette holder with filter tip - 16188A/09

SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =GB 2016-469
7-Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids - 49025B/27

SHIS 28.09.76 SHISEIDO KK D25 E12 (E16 E37) =J7 9026-245
Transparent cleansing gel - 37571A/21

• SHIS 17.03.78 SHISEIDO KK D21 *DT 2910-473
Gel compsn. for cosmetics - 70301B/39

• SHMA 02.02.78 SHIMADZU SEISAKUSHO KK D15 E31 J04 *J5 4104-378
Determination of hexavalent chromium in liq. - 70612B/39

HMC 03.09.75 SHIMIZU CONSTRUCTION D15 =J5 2031-565
Polluted water treatment to remove nitrogen and BOD components - 71021B 39

HMC 03.09.75 SHIMIZU CONSTRUCTION D15 *J7 9026-115
Polluted water treatment to remove nitrogen and BOD components - 71021B 39

SIDA= 31.08.77 SIBE BR DAIRY IND D16 (D13) *SU -639-940
Sugar-free dietetic milk prod. prodn. - 71335B/39

SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) =BR 7901-142
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35

SMHL 17.03.78 SIMON HARTLEY LTD D15 *GB 2016-437
Activated sludge effluent treatment appts. - 70382B/39

SNAM 27.12.72 SNAMPROGETTI SPA D16 E17 =DS 2363-285
L-malic acid prodn by microbiological fermentation - 32708V/18

SOLB 23.12.77 SOLCO BASEL AG B04 D16 =SF 7803-946
Hetero-vaccine for treatment of trichomonas syndrome - 47144B/26

SOPH 06.02.78 SOPHARMA SA B02 D22 *J5 4105-236
Thrombosis-inhibiting compsn. for substd. artificial blood vessel - 70791B 39

SPAA- 14.12.77 SPAAS COTTON NV NAAMLOZE D23 F07 =FR 2411-907
Wick for candles, etc. of woven bleached cotton - 44036A/25

SPOL/ 10.05.77 SPOLITE D A B04 D16 *SU -639-866
Chromatographic purificn. of trypsin - 71296B/39

STAD 15.06.77 STANDARD OIL CO (IND) D15 *US 4168-228
Aerobic waste water purification process - 71596B/39

STAH 08.02.78 STANDARD OIL CO (OHIO) A13 B07 D21 G02 (A14 A82 A96 A97) #SW 7801-486
Crosslinked maleic anhydride-indene copolymer - 49747A/28

STAH 09.02.78 STANDARD OIL CO (OHIO) A13 B07 D21 G02 (A14 A82 A96 A97) #DK 7800-593
Crosslinked maleic anhydride-indene copolymer - 49747A/28

STAM- 22.12.77 STAMAG STADLAUER MA D11 =SF 7803-405
Bakery prod. partic crisp biscuit with high bran content - 29793B/16

STAR/ 27.12.65 STARKE A B05 D13 E17 =DS 1692-193
Preservation of food products by introducing under - 27293F/00

STAU 20.03.74 STAUFFER CHEMICAL CO D13 =IT 1032-348
Protein recovery from acid solns. - 65861W/40

STAU 21.03.74 STAUFFER CHEMICAL CO D22 =IT 1032-349
Air-freshening gel free from syneresis - 65899W/40

STAU 15.12.77 STAUFFER CHEMICAL CO D13 =FR 2411-574
Substitutes for egg albumin and skimmed milk solids in food prods. - 45698B/25

STBR 07.04.78 STANDARD BRANDS INC A91 D16 (A18 A97 D17) =US 4168-250
Agglomerated fibrous ion-exchange cellulose - 74435A/42

STER 23.12.77 STERLING DRUG INC D22 L02 =SF 7803-902
Beta whitlockite prepn. in solid or porous form - 47146B/26

STOM= 11.07.75 STOMATOLOGY RES INS D21 L02 *SU -639-542
Denture porcelain teeth mfg. compsn. - 71186B/39

STOM= 15.11.76 STOMATOLOGY RES INS D21 M14 *SU -639-543
Biologically inert, metal-ceramic dentures prodn. - 71187B/39

STOM= 18.05.77 STOMATOLOGY RES INS A96 D21 *SU -640-738
Stomatological prosthetic material - 71425B/39

STUD 13.02.78 STUDIENGES KOHLE MBH D13 =DK 7900-600
Decaffeination of coffee - 50888B/28

STUH/ 05.05.78 STUHMER K H D15 J04 *DL -136-425
Continuous and simultaneous analysis of free ammonia and salts - 70023B/39

SUMB 17.05.74 SUMITOMO BAKELITE KK A94 C02 D22 F08 =SW 7903-746
Antibacterial and fungicidal thermoplastic resin film - 79138W/48

SUMG 14.04.75 SUMITOMO JUKIKAI KO D15 =J7 9026-106
Excrement treatment and ammonia recovery - 91475X/49

SUMO 06.03.78 SUMITOMO CHEMICAL KK A91 D15 J01 (A11) =GB 2016-473
Cellulose fibre-based ion exchanger filter material - 68362B/38

SUMO 17.03.78 SUMITOMO CHEMICAL KK A88 D15 J01 (A14 D13) *DT 2910-413
Acrylonitrile polymer semi-permeable membrane treatment - 70294B/39

SUMO 17.03.78 SUMITOMO CHEMICAL KK A88 D15 J01 (A14 D13) =GB 2016-301
Acrylonitrile polymer semi-permeable membrane treatment - 70294B/39

SUND/ 24.11.77 SUNDBERG H M D16 *SW 7713-285
Composting appts. with upper and lower chambers - 71526B/39

*SUPE- 23.10.74 IST SUPERIOR SANITA D16 *IT 1032-193
Purificn. of wheat to remove alpha-amylase inhibitors - B/39

SVRA- 31.10.73 SVENSKA RAYON AB A11 D15 E11 F01 =IT 1032-103
Zinc removal from viscose plant effluent - 32745W/20

*SVSL- 22.11.77 SVERIGES SLAKTERIFO D12 *SW 7713-180
Stuffing or meat mixt. moulding appts. - 71524B/39

SWIF 30.01.76 SWIFT & CO D14 =CA 1062-129
Assembling items for packaging - 73878Y/41

*SZIT/ 16.12.77 SZITA I D15 *FR 2412-171
Floating thermoelectric generator using solar heated thermocouples - 70338B/39

TABU/ 19.05.77 TABUSHI I D15 E13 J01 K05 =US 4168-265
Alkyl-substd. cyclic alkylene tetramine(s) - 74814A/42

TAIS 10.02.78 TAISHO PHARMACEUT KK B04 D16 =GB 2016-497

TAIS 10.02.78 TAISHO PHARMACEUT KK B04 D16 =J5 4106-402
Amylase inhibitors TAI-A and TAI-B - 59814B/33

TAIS 10.02.78 TAISHO PHARMACEUT KK B04 D16 =J5 4106-403
Amylase inhibitors TAI-A and TAI-B - 59814B/33

*TAKA- 01.02.78 TAKARA SHUZO KK B04 D16 *J5 4105-291
Cholesterol-oxidising enzyme prepn. - 70801B/39

*TAKA= 27.09.77 TALL KALEV CONFECTI D13 *SU -639-510
Jellied fruit sweets prodn. line - 71181B/39

*TAKE 06.02.78 TAKEDA CHEMICAL IND KK B04 D16 *J5 4104-896
Pretreating agent for removing natural agglutinin s) etc. from serum - 70698B/39

*TAKS 31.01.78 TAKASAGO PERFUMERY KK D23 E15 *J5 4103-853
5-Isopropyl-bi:cyclo(3,1,0)hexane derivs. prepn. - 70567B/39

*TAKS 03.02.78 TAKASAGO PERFUMERY KK D23 E17 *J5 4103-856
9-Oxo-isolongifolene prodn. - 70569B/39

TENN- 22.04.77 TENNANT CO A97 D25 (A12 A14) #DS 2717-849
Detergent compsn. useful for treating dirty surfaces - 74781A/42

THET- 21.02.78 THETFORD CORP D15 (D22) =BR 7900-905
Water purifying appts. - 65005B/36

*TIKH/ 08.12.74 TIKHANE N M A92 D13 *SU -639-505
Vegetable esp. cabbage, fermentation appts. - 71176B/39

*TOBA= 21.07.76 TOBACCO MAKHORKA D18 *SU -639-515
Processing freshly harvested tobacco leaves - 71185B/39

TOBC 17.05.73 TOBACCO RES & DEV INST D16 #IT 1032-026
Wine preparation with initial separation of skins - 58374V/32

*TOKE 02.02.78 TOKYO SHIBAURA ELEC LTD D15 *J5 4103-783
Draining water from liq. tanks connected to common drain line - 70512B/39

*TOPP 31.01.78 TOPPAN PRINTING KK D16 *J5 4105-288
Anaerobic bacteria culture process - 70799B/39

TOWN 23.08.74 TOWNSEND ENG CO D12 =IT 1032-143
Meat skinning by pulling meat past stationary blade - 07081X/04

TOXF 13.01.77 TOHO BESLON KK A97 D18 F04 (A18 A35) =GB 1553-357
Tobacco smoke filters - 57089A/32

*TOXW 26.01.78 TOYO INK MFG KK B04 D13 *J5 4103-900
Extraction and purification of active plant component - 70597B/39

*TOYE 07.02.78 TOYO PULP KK D15 F09 *J5 4105-854
Treating odorous waste water with activated sludge - 70828B/39

TOYJ 27.01.77 TOYO SODA MFG KK B05 D13 E16 (E14) =DL -136-737
Di:peptide amino acid addition cpds. - 57088A/32

*TOYM 07.02.78 TOYOBO KK D15 (D16) *J5 4106-074
Fermentation of organic waste, e.g. faeces, garbage - 70864B/39

TRAV/ 20.11.74 TRAVERSE C E D15 =CA 1062-381
Aerobic sewage treatment unit - 59662X/31

TSUB 06.02.78 KUMIAI CHEM IND KK D16 =J5 4105-290
Beta:galactosidase powder cultured from penicillium multicolour - 60177B/33

TSUH 21.04.75 TSUKISHIMA KIKAI KK D15 =J5 1122-940
Treatment of high concn. organic waste water - 71020B/39

*TSUH 21.04.75 TSUKISHIMA KIKAI KK D15 *J7 9026-107
Treatment of high concn. organic waste water - 71020B/39

TSUK 13.03.74 TSUKIHOSHI KK A97 D13 =IT 1032-283
Preservative compsn. for agricultural prods. - 50975W/31

TUNG/ 29.10.74 TUNG J D13 F09 G02 #IT 1032-110
Waterproofing, air permeable protective compsn. - 32447W/20

UENO 01.06.76 UENO SEIYAKO OYO D13 =US 4168-323
Food additive powder contg. sugar or sugar alcohol and surfactant - 68929Y/39

UENO 08.03.78 UENO SEIYAKU OYO D12 =NL 7900-532
Preparing ground frozen fish used for fish pastes - 47240B/26

UGIN 14.12.77 UGINE KUHLMANN A91 D15 E36 J01 =FR 2411-801
Iodine removal from gaseous mixts. or aq. solns. - 47541B/26

*ULOC= 04.04.75 UKR MIN LOCAL IND A35 D18 (A97) *SU -639-944
Semi-finished fur skin treatment unit - 71338B/39

UNIC 13.05.74 UNION CARBIDE CORP A96 D22 =IT 1032-297
Absorbent dressing with cooling device - 22218W/13

UNIC 15.12.77 UNION CARBIDE CORP A97 D12 =FR 2411-775
Tubular cellulosic wrapping, esp. for sausages - 45696B/25

*UNIC 28.02.78 UNION CARBIDE CORP D22 *BR 7901-149
Food envelope and mfg. process - B/39

UNIC 09.03.78 UNION CARBIDE CORP D12 =NL 7901-883
Inserting sizing disc into casing esp. for viscous meat emulsion - 56110B/30

UNIC- 07.02.78 UNICHARM KK A96 D22 =J5 4105-894
Diaper or sanitary towel comprising absorbent plies - 60198B/33

UNIL 03.03.67 LEVER BROTHERS CO D21 =US 4168-301
Dentifrice - 66021Z/00

UNIL 06.11.70 LEVER BROTHERS CO D21 (D25) =US 4168-144
Hair dyeing compsn - 32153T/20

UNIL 19.12.77 UNILEVER NV D23 E17 =FR 2411-818
Selective hydrogenation of polyunsaturated cpds, esp. oils - 45715B/25

UNIL 19.12.77 UNILEVER NV D23 E17 =SF 7803-817
Selective hydrogenation of polyunsaturated cpds, esp. oils - 45715B/25

UNIL 22.12.77 UNILEVER NV A97 D25 E19 (A25) =SF 7803-879
Aq. detergent compsn. esp. for dish washing - 47208B/26

UNIL 12.01.78 UNILEVER NV D24 =SF 7800-439
Deodorising textile washing compsn. - 54834B/30

UNIL 12.01.78 UNILEVER NV D21 (D25) =SF 7800-440
Washing compsn. contg. detergent and deodorant - 54833B/30

UNIL 20.02.78 UNILEVER NV D25 =BR 7900-914
Mfg. striped detergent bars - 63500B/35

UNIL 06.03.78 UNILEVER NV D21 E19 =NL 7901-752
Aq. liq. soap contg. sulphonated ester or amide - 66686B/37

*UNIL 20.03.78 UNILEVER NV D21 E19 *BE -874-977
Deodorant non-germicidal toilet soap tablet - 69929B/39

UNIL 20.03.78 UNILEVER LTD D21 E19 =GB 2016-507
Deodorant non-germicidal toilet soap tablet - 69929B/39

UNVE/ 07.05.69 UNVERDRUSS R B07 D13 =IT 1032-003
Honey-like nutrient and sweetening comp - 84875R/46

UNVO 27.03.74 UNIVL OIL PRODS CO A88 D15 J01 (A11) =IT 1032-462
Semipermeable membrane rejection performance improvement - 28859W/17

UPJO 06.09.77 UPJOHN CO B03 D22 E13 F09 =FR 2411-842
Antibacterial deoxy-neamine derivs. and precursors - 22298B/12

UPJO 06.09.77 UPJOHN CO B03 D22 E13 F09 =FR 2411-843
Antibacterial deoxy-neamine derivs. and precursors - 22298B/12

UPJO 06.09.77 UPJOHN CO B03 D22 E13 F09 =FR 2411-844
Antibacterial deoxy-neamine derivs. and precursors - 22298B/12

USIF- 03.06.75 USIFROLD SOC UTIL SCI D14 =DS 2624-517
Freeze drying chamber for food - 94679X/51

*UTVE- 06.02.78 UTVECKLINGS FLUI AB D15 G06 *SW 7801-323
Treatment of spent photographic developer - B/39

UYAL- 27.04.77 ALFRED UNIV RES FOU D11 L02 =US 4168-334
Bread baking in earthenware pans - 59768B/32

*UYVI= 25.10.76 VILIN UNIV D15 J04 *SU -638-880
Device for softened water quality determn. - 71154B/39

*VEGE= 13.07.77 VEG GROWING MACH D14 *SU -640-732
Cucumber and melon seed separating sieve - 71424B/39

VELW 26.02.76 VEB LEUNA-WERK W ULBRICH B05 D16 E17 (D13) =DL -124-195
Fermentation amyl alochol recovery from fusel oils - 36421Y/21

*VERS- 16.03.78 VERSMOLDER FLEISCHW D12 *DT 2811-340
Sausage skin with longitudinal seam - 70189B/39

VEVG- 06.02.78 VER VAN GEBRUIKERS D15 =SW 7900-997
Anaerobic treatment plant for effluent - 58028B/32

*VOTE= 09.02.76 VORON TECHN INST D16 *SU -639-931
Prodn. of beer-type drink - 71329B/39

VTEP/ 25.02.74 VON TEPPNER B D13 L02 =IT 1032-243
Ceramic culinary ware - 61571W/37

*VYRM- 06.02.78 VYRMETODER AB D15 *SW 7801-337
Pptn. of iron from ground-water around well - B/39

VYSO 16.12.77 VYSOKA SKOLA STROJ TEXT A96 B04 D16 J04 =SF 7803-859
Protein e.g. immunoglobulin immobilisation agent - 49395B/27

VYSO 12.01.78 VYSOKA SKOLA STROJ TEXT A97 D16 #SF 7800-098
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

*WALK- 29.11.77 WALKER & SONS HIRAM D16 *GB 2016-476
glucoamylase and alpha amylase system prodn. - 70389B/39

*WATE- 16.08.78 WATERMATION INC D15 *US 4168-233
Automatic activated sludge control system - 71600B/39

*WATE= 21.09.77 WATER SUPPLY HYDROT D15 *SU -643-435
Biochemical sulphate cpds. from waste water removal - 71485B/39

*WELT/ 24.03.78 WELTMAN J K B04 D16 *BE -875-064
Enzyme conjugates for immunoassay - 69942B/39

WHIT/ 26.07.74 WHITE L N D21 =CA 1062-160
Hair treatment compsns - 11617X/07

WILL/ 15.06.77 WILLIAMSON L H D13 E36 J04 #CA 1062-040
Determination of air in carbonated beverages - 78050A/43

WOBI 11.05.73 WORTHINGTON BIOCHEM CORP D16 =IT 1032-051
Biological reaction cylinder - 11817V/07

*WRIG/ 30.06.78 WRIGHT D C D12 *US 4167-901
Meat dehydrator heated by domestic light bulb - 71537B/39

*YAKI/ 05.05.78 YAKIMENKO L M C03 D13 *DL -136-331
Feed additive for animals and poultry - 69990B/39

*YAMA 03.02.78 YAMANOUCHI PHARM KK D21 E13 *J5 4105-240
Dental anti-plaque agent - 70793B/39

*ZUEV/ 23.12.75 ZUEV N G D12 *SU -640-728
Pigs slaughtering and bleeding - 71420B/39

*ZVON- 22.11.77 ZVONKO PESTELIC D14 *SW 7713-175
Food portions shaping appts. - 71522B/39

27293-P BDE
BE -691-714 Q00
CA -863-316 S07
CH -510-406 S41
US 3615-727 S46
FR 1550-070 Q00
NL 6618-097 Q00
GB 1169-550 Q00
DS 1692-193 B39

14074-Q ADF
US 3463-158 Q00
CH 495-755 R46
GB 1217-601 R51
CA -887-151 S49
CA -943-735 V15
IT 1032-001 B39

01073-R DJ
US 3488-261 R01
NL -147-039 W44
DS 1642-435 Y43
IT 1032-002 B39

59597-R D
DT 1904-804 R34
DT 1967-237 B39 +

64552-R DJM
US 3527-609 R36
BE -751-907 R49
FR 2093-353 T17
CA -901-440 T24
GB 1306-855 U07
J7 9026-514 B39 +

82121-R ABD
NL 7005-912 R44
DT 2021-356 R45
ZA 7002-957 S19
FR 2061-819 S38
US 3809-225 V20
CA -957-983 V49
DS 2021-356 B39

82782-R BDE
BE -750-131 R44 +
NL 7006-712 R45
ZA 7007-003 S16
FR 2047-504 S22
ZA 7003-079 S26
GB 1256-995 S49
CA -949-381 V27
CH -560-515 W21
DS 2022-499 B39

84875-R BD
DT 1923-329 R46
IT 1032-003 B39

85143-R D
DT 2022-337 R46 +
NL 7007-027 R46
ZA 7003-187 S04
CA -918-943 U05
US 3845-702 V46
CA -973-754 W38
J7 6018-508 X28
IT 1032-010 B39

04125-S AD
BE -753-000 S02
NL 7010-656 S04
DT 2035-534 S13
FR 2052-121 S29
GB 1286-403 T34
CH -523-662 T34
CA -990-219 X25
NL -152-438 Y15
DT 2065-974 Y28
DS 2035-534 A32
IT 1032-005 B39

17089-S D
CA -865-248 S10
DS 1938-465 B39

19353-S AD
DT 2042-738 S11
GB 1271-787 T17
CH -530-788 U07
CA -977-901 W49
DS 2042-738 B39

20076-S D
BE -755-788 S11
ZA 7006-475 S26
DL --83-812 S42
FR 2068-203 S47
NL 7011-229 T07
CH -520-166 T22
FR 2098-995 T24
US 3687-437 T37
GB 1312-150 U14
SU -640-667 B39

30172-S D
BE -758-086 S17
DT 2052-471 S19
FR 2065-541 S42
CA -920-876 U09
IT 1032-006 B39

59309-S DE
DT 2108-748 S37
FR 2079-003 T05
US 3701-714 T46
GB 1352-633 V19
CA -947-217 V22
IT 1032-009 B39

70500-S BD
BE -766-282 S44
NL 7105-600 S45
DT 2120-411 S48
ZA 7102-655 T09
FR 2090-699 T14
CH -541-583 U47
GB 1352-566 V19
CA -973-488 W37
IT 1032-013 B39 +

11062-T D
BE -770-755 T07
DT 2141-457 T10
NL 7110-403 T10
J4 7005-278 T13
FR 2104-860 T29
IT 1032-015 B39

20092-T AD
DT 2044-550 T13
FR 2103-002 T28
GB 1340-941 U51
SU -639-459 B39

32153-T D
BE -774-863 T20
DT 2154-647 T21
J4 7010-249 T22
FR 2112-489 T41
ZA 7107-365 U27
CA -954-449 V39
GB 1373-081 V45
OE 7109-539 W19
CH -573-251 X19
J7 8027-345 A35
US 4168-144 B39

35485-T D
BE -775-673 T22
J4 7014-078 T34
ZA 7108-038 T36
DT 2161-458 T45
CH -526-927 T47
FR 2122-124 T51
US 3843-819 V44
GB 1372-315 V44
CA -969-021 W26
AR -201-183 W40
DS 2161-458 Y48
IT 1032-016 B39

42877-T D
DT 2144-245 T27
J4 7011-988 T30
GB 1314-296 U16
US 3729-382 U19
DT 2167-197 B39

43182-T D
NL 7117-149 T27 +
DT 2162-315 T31
CH -527-564 T47
FR 2118-768 T47
DL --94-332 U09
DT 2162-315 U23
GB 1324-938 U30
BE -776-721 U46
US 3793-938 V10 +
CA -955-459 V42
US 3867-559 W09
SU -541-415 Y40
NL -157-487 A35 +
SU -639-417 B39

78831-T AD
DT 2225-267 T50
FR 2140-015 U13
GB 1354-659 V22
CA -966-777 W20
CH -573-252 X19
DS 2225-267 B39

13082-U DE
DT 2238-644 U10
NL 7210-836 U10
BE -787-575 U10
FR 2149-488 U22
J4 8028-031 U23
DL -102-180 V10
GB 1414-669 W47
US 3928-390 X01
CA -982-138 X06
CH -579-664 X42
J7 9026-573 B39

24351-U DEF
DT 2151-409 U18
NL 7212-624 U18
FR 2157-454 U33
J4 8048-601 U37
GB 1383-006 W06
US 3922-446 W50
CH -586-283 Y18
DS 2151-409 B39

46004-U D
NL 7300-937 U33
DT 2303-436 U35
FR 2173-966 U51
US 3887-964 W25
CH -564-321 W34
GB 1423-701 X06
CA -991-475 X28
OE 7300-549 X32
NL -156-302 A17
US RE30-096 B39 +

11817-V D
DT 2337-056 V07 +
FR 2193-652 V17
GB 1387-275 W11
DS 2337-056 X50 +
IT 1032-051 B39

32708-V DE
BE -808-849 V18
NL 7317-522 V28
DT 2363-285 V29
FR 2212-431 V43
GB 1419-668 X01
US 3980-520 X39
CA 1000-221 X50
CH -606-417 A48
DS 2363-285 B39

41950-V D
DT 2341-639 V23
DL -108-451 V48
GB 1414-384 W47
IT 1032-042 B39 +

58374-V D
US 3826-849 V32 +
IT 1032-026 B39 +

60995-V DE
NL 7401-639 V34 +
DT 2405-857 V35 +
GB 1459-133 X52 +
DS 2405-857 A06 +
CH -600-888 A28 +
SU -591-133 A50
US 4131-556 B02 +
SU -640-638 B39

00028-W DE
BE -816-340 W01
NL 7406-835 W01
DT 2331-014 W03
SW 7406-814 W07
FR 2233-306 W13
J5 0036-408 W22
DL -113-346 W32
US 3943-178 X12
OE 7404-967 X40
GB 1464-620 Y07
CA 1029-749 A18
CH -608-775 B09
SU -639-458 B39

13018-W D
DT 2435-038 W28 +
FR 2238-673 W19
US 3907-682 W40 +
FR 2271-178 X10 +
GB 1470-406 Y15 +
IT 1030-035 B26
DS 2435-038 B39 +

13043-W D
DT 2435-688 W08
FR 2238-758 W19
J5 0069-299 W32
ZA 7404-726 W37
PT --62-344 X19
IT 1032-065 B39

20905-W DE
BE -819-693 W13
DT 2446-330 W19
FR 2247-986 W30
ZA 7405-893 W42
US 3911-158 W42
AR -201-885 W46
GB 1426-410 X09
CH -578-842 X39
DS 2446-330 X45
CA 1014-002 Y31
IT 1032-091 B39

21359-W D
DT 2444-213 W13
BE -820-027 W14
NL 7412-300 W14
SW 7411-694 W19
NO 7403-338 W20
ZA 7307-353 W22
DK 7404-885 W26
FR 2245-291 W27
SF 7402-709 W28
IT 1032-083 B39

22218-W AD
US 3871-376 W13
BE -826-607 W40
NL 7502-945 W40
SW 7502-780 W45
NO 7500-834 W46
J5 0127-490 W49
DK 7500-997 W50
FR 2263-788 X01
DT 2508-520 X07
ZA 7501-536 X17
OE 7501-900 X40
GB 1488-413 Y41
J7 8002-277 A08
CH -600-890 A28
CA 1046-373 B05
IT 1032-297 B39

24211-W DH
BE -822-067 W15 +
DT 2454-048 W31 +
FR 2250-822 W35 +
J5 0076-283 W46
J5 1048-480 X24
GB 1446-979 X34 +
J7 9002-266 B09
J5 0100-282 B17
J7 9006-633 B17
J7 9017-026 B29
IT 1032-120 B39 +

28859-W ADJ
US 3877-978 W17
BE -826-745 W32
DT 2512-982 W42
J5 0140-378 X02
DK 7501-332 X02
FR 2265-810 X03
BR 7501-705 X04
ZA 7501-598 X17
DS 2512-982 X44
GB 1502-163 A08
IL --46-824 A09
J7 8013-431 A22
CA 1060-285 B35
IT 1032-462 B39

32447-W DFG
BE -821-665 W20
PT --62-871 W37
FR 2255-365 W41 +
DT 2415-843 W44 +
ZA 7406-734 X03 +
DT 2451-490 X20 +
NL 7414-191 X21 +
NO 7403-657 X23 +
SF 7403-108 X31 +
BR 7409-079 X31 +
IT 1032-110 B39 +

32745-W ADEF
DT 2449-279 W20 +
BE -821-640 W20
NL 7414-188 W20 +
SW 7314-841 W25
NO 7403-908 W26 +
SF 7403-137 W32 +
J5 0074-567 W33 +
BE -824-850 W33
NL 7500-808 W33
FR 2249-838 W34 +
NO 7500-240 W39
SW 7502-932 W42
SW 7502-933 W42
J5 0108-104 W43
SF 7500-206 W44
FR 2259-155 W46
DL -116-212 X05 +
ZA 7406-710 X26
US 3966-569 X28
OE 7408-773 Y01
GB 1486-322 Y38 +
IT 1032-103 B39 +

33910-W D
US 3881-491 W20
DT 2512-392 W42
FR 2265-542 X03
GB 1461-553 Y02
CA 1038-552 A40
IT 1032-471 B39

34194-W ADF
BE -821-941 W21
NL 7414-547 W21
DT 2451-698 W22
SW 7413-718 W26
SF 7403-161 W32
J5 0079-170 W34
FR 2250-712 W35
ZA 7407-158 X06
BR 7409-359 X23
GB 1466-473 Y10
CH -589-009 Y29
SU -640-640 B39

36292-W ADE
DT 2454-840 W22
NL 7415-040 W23
FR 2251-307 W36
J5 0089-407 W37
DS 2454-840 Y12
GB 1484-507 Y35
CA 1027-479 A12
J7 9017-333 B30
NL -160-719 B31
IT 1032-133 B39

37847-W AD
DT 2358-150 W23
BE -822-381 W23
NL 7414-745 W23
SW 7414-394 W28
J5 0085-689 W36
SF 7403-352 W36
FR 2252-353 W37
PT --62-956 W45
ZA 7407-407 X06
AR -203-220 X16
BR 7409-779 X24
US 3965-091 X27
GB 1492-039 Y46
CA 1029-371 A17
CH -609-067 B12
OE 7409-291 B26
IT 1032-136 B39

41480-W D
GB 1397-971 W25
US 4054-145 Y43
DS 2135-637 B39

46104-W BD
BE -825-680 W28
DT 2507-117 W35
NL 7501-460 W36
SW 7501-838 W41
NO 7500-560 W42
DK 7500-612 W47
J5 0123-887 W48
SF 7500-463 W51
PT --63-266 X19
OE 7501-271 X24
GB 1489-231 Y42
US 4168-375 B39

46108-W CD
BE -825-709 W28
DT 2508-196 W36
NL 7502-356 W37
DK 7500-789 W49
FR 2261-712 W50
GB 1494-502 Y49
OE 7501-535 A18
US 4168-322 B39

50975-W AD
BE -826-614 W31 +
DT 2510-840 W39 +
NL 7502-989 W40 +
DK 7500-981 W50 +
FR 2263-707 X01 +
DL -117-804 X18 +
PT --63-473 X25 +
J5 1051-537 X25
US 3997-674 X52 +
ZA 7602-330 Y19 +
GB 1500-534 A06 +
CS 7501-667 A10 +
OE 7501-949 A22
J7 9007-862 B18
CA 1054-843 B23 +
IL --49-454 B29 +
IT 1032-283 B39 +

52431-W CDE
BE -826-881 W32
DT 2512-099 W40
NL 7503-212 W41
SW 7502-984 W46
DK 7501-095 W51
BR 7501-598 X01
FR 2264-775 X02
SF 7500-784 X04
J5 0157-299 X04
DL -116-205 X05
IL --46-825 Y16
HU T013-111 Y19
GB 1497-716 A02
DS 2512-099 A29
CA 1060-631 B36
US 4166-839 B37
IT 1032-330 B39

59139-W ADE
DT 2507-566 W36
BE -825-825 W36
NL 7502-087 W37
FR 2262-022 W50
US 4008-999 Y09
GB 1483-862 Y34
CA 1062-276 B39

59141-W ADE
DT 2507-568 W36
BE -825-822 W36
NL 7502-082 W37
FR 2262-023 W50
GB 1483-864 Y34
US 4054-147 Y43
CH -611-515 B29
CA 1062-261 B39

61571-W DL
NL 7502-214 W37 +
SW 7501-726 W42
NO 7500-626 W43
DK 7500-460 W47
FR 2261-733 W50
ZA 7501-008 X13
DT 2446-855 X16
CH -583-015 Y02
GB 1463-645 Y05
IT 1032-243 B39

64015-W D
BE -826-554 W39
NL 7503-641 W47
DT 2511-843 W47
SW 7503-457 W52
FR 2269-306 X08
DK 7500-972 X08
NO 7500-954 X10
BR 7502-051 X14
OE 7501-971 X15
PT --63-503 X25
GB 1444-888 X32
US 3977-656 X37
CA 1003-654 Y05
IL --46-867 Y34
CH -595-773 A12
DS 2511-843 A21
IT 1032-391 B39

64255-W ADH
DT 2510-374 W39 +
NL 7502-243 W39 +
J5 0121-493 W47 +
FR 2264-077 X01 +
US 3966-618 X28 +
GB 1443-507 X30 +
US 4010-071 Y10 +
DS 2510-374 Y41 +
CA 1038-781 A40 +
CH -611-932 B29 +
IT 1032-245 B39 +

64366-W DE
FR 2253-824 W39
DK 7406-140 W39
US 3954-679 X20
ZA 7407-293 X31
CA 1039-611 A42
IT 1032-142 B39

65861-W D
DT 2509-516 W40
BE -826-945 W41
NL 7502-751 W41
SW 7503-159 W46
NO 7500-942 W47
DK 7501-188 W51
FR 2264-818 X02
SF 7500-666 X04
ZA 7501-000 X13
GB 1493-677 Y48
CA 1055-931 B25
CH -611-777 B29
IT 1032-348 B39

65899-W D
DT 2511-191 W40
BE -826-944 W41
NL 7502-596 W41
SW 7503-230 W46
NO 7500-968 W47
J5 0133-177 W51
BR 7501-334 X01
FR 2264-560 X02
DK 7501-187 X02
ZA 7501-035 X13
GB 1438-098 X23
AR -203-900 Y03
CA 1043-265 A50
CH -612-850 B38
IT 1032-349 B39

65917-W DJ
DT 2511-508 W40
BE -826-942 W41
NL 7403-883 W41
SW 7503-099 W46
J5 0128-682 W49
FR 2264-576 X02
GB 1506-492 A14
CA 1048-738 B10
IT 1032-359 B39

67296-W DE
BE -826-974 W41
NL 7503-432 W41
J5 0131-932 W50
FR 2270-264 X09
DT 2413-823 X09
US 4020-110 Y18
GB 1490-122 Y43
CA 1042-467 A48
CH -612-945 B38
IT 1032-365 B39

67304-W DEF
BE -827-010 W41
DT 2413-867 W43
FR 2264-910 X02
BR 7501-441 X02
GB 1500-050 A06
IT 1032-353 B39

67308-W ABD
BE -827-033 W41
NL 7503-319 W42
DT 2513-929 W42
SW 7502-470 W47
NO 7500-867 W48
J5 0132-173 W51
DK 7501-301 X02
FR 2265-758 X03
BR 7501-721 X04
SF 7500-890 X07
ZA 7501-481 X17
US 3957-680 [illegible]
PT --63-645 [illegible]
DL -119-596 [illegible]
GB 1478-272 [illegible]
OE 7502-328 [illegible]
HU T015-162 [illegible]
CA 1036-087 [illegible]
SU [illegible] [illegible]
CS 7502-113 [illegible]
CH -610-908 [illegible]
IT 1032-467 B39

67587-W D
DT 2425-214 W41
J5 0129-768 [illegible]
FR 2265-281 [illegible]
GB 1452-253 X42
DS 2425-214 Y02
CH -584-515 [illegible]
CA 1039-104 A41
US 4160-044 B29
IT 1032-247 B39

79138-W ACDF
DT 2521-451 W48
SW 7505-659 X02
DK 7502-163 X10
DS 2521-451 X48
FR 2301-386 X52
US 4008-351 Y08
J5 0146-643 A08
GB 1512-243 A21
J7 8019-345 A28
GB 1518-650 A29
CA 1040-098 A43
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SF 7803-817 B39

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47146-B DL
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SF 7803-902 B39

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DT 2855-675 B28+
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DK 7805-754 B32+
NO 7804-200 B32+
SW 7812-765 B32+
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BR 7808-366 B34
SF 7803-907 B39

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NL 7812-319 B28+
DK 7804-022 B32+
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SW 7809-483 B32+
PT --68-940 B32+
BR 7808-461 B34+
SF 7803-957 B39+

47159-B CDGH
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SF 7803-479 B39

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SF 7803-879 B39

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BR 7808-244 B35
SF 7803-858 B39

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BR 7808-250 B35
SF 7803-857 B39

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47409-B D
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SF 7803-905 B39

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GB 2013-181 B32+
DK 7805-077 B33
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SW 7900-028 B34+
J5 4095-585 B36+
SF 7900-004 B39+

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NL 7900-007 B29+
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SF 7900-005 B39+

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49352-B D
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CS 7708-437 B34
SF 7803-859 B39

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GB 2014-425 B35+
DK 7900-600 B39+

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SF 7803-923 B39

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SW 7812-682 B34+
BR 7900-021 B34+
SF 7803-945 B39+

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SW 7813-066 B32
SF 7803-930 B39

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DK 7800-660 B35
NO 7800-490 B35
SW 7801-713 B35
BR 7900-156 B35
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J5 4104-963 B39

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NL 7801-345 B34
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SW 7900-997 B39+

58086-B D
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DK 7800-580 B39+

58379-B BDE
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59768-B DL
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59814-B BD
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BR 7900-877 B39

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DK 7900-540 B39

61636-B D
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EP ---3-548 B34
DK 7900-539 B39

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DK 7900-611 B39

61816-B D
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BR 7900-898 B39

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70279-B AD
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GB 2016-262 B39
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COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	25 SEP - 30 SEP 79	875,089 - 875,166
-Non Delayed	17 SEP 79	876,268 - 876,709
BRAZIL	25 SEP 79	7,801,222 - 7,904,495
CANADA	18 SEP 79	1,062,401 - 1,062,850
DENMARK	10 SEP 79	7,800,672 - 7,900,753
W. GERMANY		
-DAS	27 SEP 79	1,514,012 - 2,854,544
-OLS	27 SEP 79	2,530,616 - 2,911,839
EUROPE	3 OCT 79	4,258 - 4,562
FRANCE*	20 JUL 79 (BOPI 24 AUG 79)	2,412,242 - 2,413,021
UNITED KINGDOM	3 OCT 79	1,553,561 - 1,553,760 2,016,881 - 2,017,470
ITALY	20 JUN 79	1,032,501 - 1,033,000
JAPAN		
-Unexamined	—	47,001,831 - 53,099,771
	21 AUG - 29 AUG 79	54,106,568 - 54,110,139
-Examined	6 SEP - 12 SEP 79	79,026,761 - 79,027,920
NETHERLANDS	17 SEP - 23 SEP 79	7,802,687 - 7,902,136
NORWAY	10 SEP 79	7,800,482 - 7,900,540
AUSTRIA	15 SEP 79	7,206,724 - 7,903,955
SOVIET UNION	—	279,030 - 643,942
SWEDEN**	17 SEP 79	7,712,878 - 7,903,501
UNITED STATES		
-Reissues	25 SEP 79	Re30,100 - Re30,103
-Patents	25 SEP 79	4,168,542 - 4,169,291

*Printed patents actually published mid - late September, 1979

**Includes numbered Basics from Weeks B12,B15,B26,B27 and B29

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

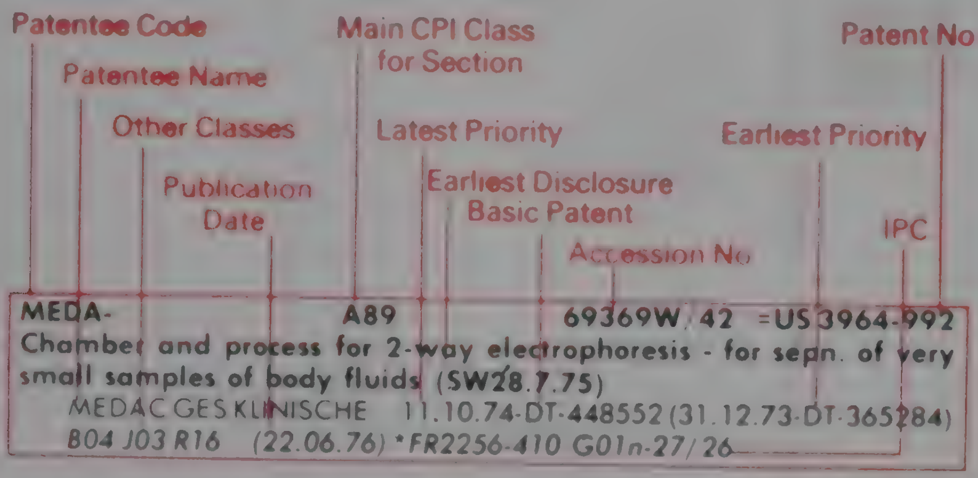
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- A89 69369W/42 =US3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11: BAKING

WERN D11 76009X/41 =DS 2512-790
Braided bread dough structure prodn - for subsequent baking from dough extrusion
WERNER & PFLEIDERER 22.03.75-DT-512790
*(27.09.79) *DT2512-790 A21c-05*

In the prepn. of strands of dough for plaited pastry or pretzels the first stage is the sepn. of a lump of dough with the weight of the finished article. This piece of dough is treated in kneading, dough raising and long rolling stations in turn. After passing through calibration rollers which shape it to a rectangular section of precise length, a set of shaping/cutting rollers with two circular roll gaps divide the dough into two parallel strands.

A conveyor takes these to the plaiting and baking stations. The gentle treatment of the dough ensures that the finished articles have excellent quality and taste. 22.3.75 as 512790(4pp39)
as 512790(4pp39)

BONG- D11 77608Y/44 =DS 2731-812
Automatically retractable loading ramp for bakers ovens - allows effective sealing between door and lower edge or doorway
LES FILS BONGARD 18.02.77-FR-005332
*+Q77 (27.09.79) *BE-856-241 A21b-03 +A21c-13*

A ramp for the doors of baking ovens is actuated by a lug at the bottom of the door. When the door is opened, this lug acts against a roller and shifts a structure in the floor with two inclined tracks. The horizontal strip of the ramp which is guided in vertical guides is thereby lifted up to the door sill when its rollers are forced up the inclined tracks. A hinged flap on the horizontal strip forms a ramp for the carriage with the pastry.

This saves the seals of the door seals from premature wear. 14.7.77 as 731812(8pp39)

ROHW/ ★ D11 71958B/40 ★DT 2812-183
Addn. of cooked whole rice flour to white bread - gives better keeping properties and allows reduced fat content
ROHWER W 20.03.78-DT-812183
(27.09.79) A21d-13

White bread, short bread, fruit loaf, etc., are made from the usual wheat flour, water or milk, yeast, salt and other additives, with the addn. of 10-20% of the flour used of well swollen (cooked) whole rice flour.

Addn. of the cooked rice flour to ordinary white bread keeps it fresh and moist for longer periods without being sealed into foil, whilst addn. of the rice flour to shortbread, fruit loaf, etc., allows the fat content to be left out or severely reduced. 20.3.78 as 812183 (3pp513).

ULLM/ ★ D11 71961B/40 ★DT 2812-217
Push/in rack for baking tins - with supports punched out of side walls and bent horizontal
ULLMANN W 20.03.78-DT-812217
P25 (27.09.79) A21b-07 A47b-57/12

A push-in rack for plates, specially for baking tins in bakeries, consists of two parallel vertical carrier sheets which are assembled to a stable structure by cross plates on top and bottom. The supports for the baking tins are produced by punching rectangular horizontal flaps in regular distance from the side walls and by bending them inward to form horizontal ledges.

This greatly simplifies the manufacture of these push-in racks. 20.3.78 as 812217 (7pp39).

CARR/ ★ D11 72196B/40 ★FR 2412-269
Fruit cakes, esp. tarts and flaws - contg. berries, sugar and gelling agent with better storage properties
CARRON J 23.12.77-FR-039249
(24.08.79) A21d-13/08 A23l-01/06

Gateau formed from a paste covered with a filling of berries uses a filling having a refractive index of ≥60 which contains ≥30% berries, ≥60% of a cpd. from saccharase, glucose and sugars, and 1-10g/kg of a gelling agent.

The gelling agent is pref pectin in amt. 3-6 gm/kg. The pastry is pref. speckled, layered or short. The paste pref contains almonds as powder or extracts, esp. 1-2 spoons of bitter almond puree per kg of flour, it also pref contains cinnammon in amt. of 1 coffee spoon per kg of flour and also lemon. The gateau is pref. a filled tart.

Prods are tarts and flans. The filling enables better storage properties i.e. without wetting the pastry or without the fruit drying up on the surface. 23.12.77 as 039249 (5pp597)

RHEO- D11 54417Y/31 =GB 1553-635
Continuous dough roller for pastry and bread - has conveyor rollers beneath faster moving endless rolling out unit
RHEON AUTO MACH 27.01.76-JA-007648
*(03.10.79) *DT2703-331 A21c-03/02*

Dough is stretched on appts. which has stretching rollers which travel along an oval path; a dough transport conveyor disposed and spaced below the lower straight part of the oval path; drives to move the rollers and the transport conveyor in the same direction, and to rotate the rollers in the opposite direction in the area where the lower part of the path faces the conveyor.

The transport conveyor includes an intake endless belt, transport rollers downstream of the intake belt whose peripheral speeds are greater than those of the corresp. stretching rollers and the speed of the intake belt, but less than the speed of the stretching rollers around the oval path. 27.1.77. as 003422 (10pp1376)

CUCC/ ★ D11 B/40 ★IT 1032-575
Dough smoothing appts. - for round pizza prodn.
CUCCI B 19.02.75-IT-067426
(20.06.79) A21c

RIKV ★ D11 72890B/40 ★J5 4109-962
Stable L-ascorbic acid (salt) prodn. - involves coating with molten mixt. of fat and oil and sucrose ester of fatty acid, followed by pulverisation
RIKEN VITAMIN OIL KK 17.02.78-JA-017394
B03 C02 E13 (D13) (29.08.79) A61k-31/34 C07d-307/62

Method comprises coating L-ascorbic acid or its salts with a molten mixt. of fat and oil whose m. pt. is 50-80 °C and sucrose ester of fatty acid by mixing them, followed by subjecting the mixt. to pulverisation.

The L-ascorbic acid or its salts in a form of pharmaceutical preparation are pref. used for bread- baking, and they can also be used for an assorted feed for fish-farming or general feedstuff.

The amt. of sucrose fatty acid is pref. 0.1-1 pt. wt. per pt. wt. of the fat and oil. The coating material is pref. used in a ratio of 1-20 times (weight) as much as the L-ascorbic acid or its salts. Sucrose fatty ester employed is an ester between sucrose and fatty acid, whose HLB is relatively low. 17.2.78 as 017394 (5pp75)

KANF ★ D11 72974B/40 ★J7 9027-422
Prepn. of oil and fat prod. for cakes - by mixing sugar fatty acid ester, polyvalent alcohol, unsatd. fatty acid mono:glyceride and hydrophobic sugar fatty acid, and emulsifying
KANEGAFUCHI CHEM KK 23.06.71-JA-045925
(10.09.79) A21d-02

Hydrophilic sugar fatty acid ester and polyvalent alcohol are used as aqueous phase material, and unsatd. fatty acid monoglyceride as well as hydrophobic sugar fatty acid are used as the organic phase material, and both are mixed and further mixed with vegetable oil, whereby the whole phases are emulsified. The resultant is useful for preparation of cake. 23.6.71 as 045925 A21d -2/00 (10.9.79) KANEGAFUCHI CHEM KK (8pp22)(J48010264)

TOXN ★ D11 73008B/40 ★J7 9027-885

Antibacterial treatment of bread or wheat flour - using compsn. contg. sodium acetate and sodium and/or potassium metaphosphate and/or glucono-(delta -lactone

TOYO JOZO KK 20.12.72-JA-127914

(12.09.79) A21d-02/14 A231-01/17 A231-03/34

Process comprises blending an antibacterial compsn. comprising 1 pt. wt. Na acetate and 0. 7 pt. wt. Na metaphosphate, K metal-phosphate and/or glucono-(delta)-lactone, with bread or wheat flour.

Process has no adverse effect on the quality or flavour of the prod. 20. 12. 72 as 127914 A21d-2/14, A231-1/176 3/34 (12. 9. 79) TOYO BREWING KK (4pp15)(J49085257)

KAOS D11 53230X/28 = J7 9027-886

Bread qualities improving agent - dessicated coconut powder treated with oleophilic, edible surfactant

KAO SOAP KK 20.11.74-JA-133439

*(12.09.79) *J51061-656 A21d-02/36*

Novel bread improver charging the inner structure, volume and taste of bread is obtained by coating desiccated coconut powder with oleophilic edible surfactant. In this prepn. desiccated coconut powder is mixed with lesser amount below 70°C and above the temp. at which the oleophilic surfactant is semisolid.

As a result of coating the surface of desiccated coconut powder with oleophilic edible surfactant, preservability of the bread improver is improved. By mixing the bread improver with dough, original fragrance of bread is enhanced and taste is improved. 20. 11. 74 as 133439 A21d-2/36 (12. 9. 79) KOA SOAP KK (4pp)(J51061666)

SHUR/ ★ D11 73293B/40 ★SU -641-406

Liquid ingredients dispenser for yeast prepn. - has receptacle with lower and upper sensors connected across amplifiers to AND/gates

SHURIK L N 31.08.76-SU-396775

R13 R26 (08.01.79) G01g-11 G05d-07/06

Known circuitry contained upper and lower sensors, receptacle, filling and emptying valves, pipes and commutators. Now amplifiers, thyristor switches, NOT-gates AND-gates and memories are introduced for greater accuracy and reliability.

Proposed dispenser can be used in bread baking and confectionery industry for dispensing liquids in yeast prepn. Reliability is increased partly by using the amplifiers to avoid oxidation of the sensors, and partly by use of contactless parts. The latter also increases accuracy of dispensing.

Shurik, L. N., Sivshev, V. B., Shtukarev, Yu. S. Bul. 1/5. 1. 79. 31. 8. 76. as 396775 (3pp840)

D12: MEAT; FISH PROCESSING

BAUE/ ★ D12 71980B/40 ★DT 2812-536

Double screw meat mincing machine - with pressure sensitive speed control of feeder screw

BAUER W 22.03.78-DT-812536

P41 (27.09.79) B02c-18/30

A meat mincing machine consists of a horizontal worm conveyor at the bottom of a funnel, feeding a vertical worm conveyor to take the meat to the perforated discs and cutters. The vertical conveyor has a separate drive which runs continuously. The drive for the horizontal feeder conveyor is controlled by a pressure sensor in the space where both conveyors join, which varies the worm speed infinitely variably, or in steps, or by switching OFF and ON. An alternative control is a load cell at the free end of the axially movable horizontal screw shaft.

This prevents the squashing of any excess meat supplied which would make it unsuitable for good quality sausage. 22. 3. 78 as 812536 (8pp39).

TURR/ ★ D12 72062B/40 ★DT 2909-791

Sausage string knotting attachment - with tubular corkscrew and retraction rod

TURROQUES G A 14.03.78-FR-007254

Q31 (27.09.79) A22c-11/12 B65b-51/08

A string is tied into a knot to close a sausage skin end or lumps of meat by passing the string through a corkscrew tube and pulling it through over the outside and then the inside of the corkscrew turns. The corkscrew is then turned around its axis and pulled back to form a tight knot.

This is a simple attachment for the automatic application of any desired number of knots and loops. 13. 3. 79 as 909791 (27pp39).

SAUR/ ★ D12 72187B/40 ★EP ---4-502

Prodn. of sausages etc. with different internal portion - by coaxial extrusion, with inner paste thickened to prevent its escape

SAURIN W 28.02.79-FR-005223 (17.03.78-FR-007863)

(03.10.79) A22c-11

D/S: E(BE, CH, DT, GB, IT, LU, NL, SW).

Prodn. of stuffed prods. consisting of two different, cylindrical, coaxial parts, comprises first coaxially extruding two cylinders of different pastes, of indefinite length, in a casing. The extrudate is divided up into the required lengths, each length having closed ends, then subjected to protein-coagulation and opt. peeling to remove the casing.

The new feature is that the consistency of the paste for the inner portion is thickened so as to prevent its escape from the outer portion at the ends of the prod.

An appts. for this process is also claimed.

The process is esp. for making sausages etc. based on meat or fish; particularly cocktail-type sausages. 14.3.79 as 400168 (18pp1251)

(F) ISR: ——

FUTA- ★ D12 72503B/40 ★J5 4107-548

Dried poultry meat prepn. - by soaking in alkaline soln., steaming, removing skin, removing the meat, seasoning, adding surfactant and drying

FUTABA BUSSAN KK 30.06.77-JA-078373

(23.08.79) A231-01/31

Prodn. of dried poultry meat (I) comprises (i) soaking slaughtered poultry (II) in alkaline soln. contg. such a reagent as polyphosphate, Na_2CO_3, etc. (ii) steaming (II) at high temp. and under high pressure, until the temp. of (II) reaches 65-90°C, (iii) removing the skin (iv) taking the meat of (II) in form of fibrous pieces with roller or mixer, (v) seasoning the meat with hot seasoning-soup, to impregnate the soup into the meat, (vi) mixing the meat with surfactant and (vii) drying the meat until the moisture content in the meat is 7-18 wt. %.

(I) can be preserved for long period of time. The skin is easily removed after the treatment in step (i). The treatment of step (vi) prevents adhesion of the meat pieces with each other. The drying of the meat is carried out at 80-120°C by hot air or IR ray-irradiation. 30. 6. 77 as 078373 (3pp42)

DURA/ ★ D12 B/40 ★OE 7803-014

Boiling resistant wrapping for foodstuff

DURAN V 26.04.78-OE-003014

(15.09.79) A22c-13

BMEA= ★ D12 73312B/40 ★SU -641-952

Lifting meat carcasses from suspension track - using frame with rollers which travel over curved guides with chain carcass-holder, until frame is horizontal

BELO MEAT IND RES 08 07.77-SU-505345

Q35 (16.01.79) A22b-07 B65g-65

Device for removing meat carcasses from a suspension rack on which they are being carried, includes a mech- nism for feeding the carcasses individually and mechan- sm to lower the carcasses, comprising a frame and a rive. Reliability is increased and construction is simp- ified by fitting the lowering mechanism with arc-shaped uides. A frame is positioned so that it can rotate and s fitted with rollers which interact with the guides.

The end of the track on which the suspended carcasses are moving runs into the end of the portion of track where he motion stops. The trolleys travel on to the latter section, an electric motor is switched on and its rotary motion is transmitted to the lowering frame. The rollers on the frame travel over the arc-shaped guides. A tie-piece (consisting of a chain) holds the lower end of the carcasses in the plane of the frame and, when the latter has moved down far enough to be in a horizontal position, the carcass is removed. The device can also be used in the reverse way, i.e., for loading carcasses on to the suspension track.

Kryshtalev, V.S., Anisimov, V.M., Tsybulko, V.N. Bul 2/15.1.79. 8.7.77. as 505345 (2pp29)

LEME= ★ D12 73313B/40 ★SU -641-953

Removing epiphysis from bones - by fastening bones to a rotor and bringing into zones of disc saws

LENGD MEAT IND TRUS 25.07.77-SU-571454

(16.01.79) A22c-17

Device for remaining epiphyses from tubular bones, in the meat industry, according to Parent Cert. No. 384502, comprised disc saws with identical diameters mounted vertical and parallel, and displaced relative to one another, and a rotor with bone-holding mechanisms fastened to its surface radially, and which could move backwards and forwards relative to the saws.

Now the noise level is reduced by mounting a spring-loaded catches in the decanting zone, with the saws and template for setting the position of the roller being fitted respectively with a pneumatic damper and guides. The bone-holding mechanisms are also spring-loaded.

Shkurat, V.P., Pavlov, M.S., Merzlikin, V.A. Bul. 2/15.1.79. 25.7.77. as 511454 Add to 384502 (4pp29)

TEEP D12 66874Y/38 =US 4169-163

Reducing friction coefficient of regenerated cellulose sausage skins - by applying an aq. dispersion contg. a friction reducing cpd. giving improved results in high speed filling machines

TEE PAK INC 29.04.76-US-681625

*A97 +P42 Q34 (A11 A25) (25.09.79) *BE-852-489 A22c-11 A22c-13 B65d-81/34*

Linked meat-filled sausage casings of regenerated cellulose are prepd. having uniform dimensional characteristics. In the process, an aq. dispersion contg. a water-soluble cellulose ether and 0.25-1.0 wt.% of an alkylene oxide adduct of a partial fatty acid ester are applied to the external walls of the casing.

The cellulose ether used imparts a low coefficient of friction to the casing, being present at a concn. of 0.25-1.0 wt.% and applied to the wall in proportion 0.25-1.0 mg/in^2 of external casing. The casing is filled with a meat emulsion after the dispersion is applied, and the filled casing linked.

The process avoids the prodn. of oversized chubs, reducing the number of oversize sausage links on stuffing and linking. 29.4.76 as 681625 (3pp931)

See Also

D13 J7 9027889 D13 US 4168657 D13 US 4169161

D13: OTHER FOODSTUFFS

MUHE/ ★ D13 71740B/40 ★BE -876-332

Expanded animal feed croquettes - contg. vegetable or animal protein, starch, fats and oils, particularly suitable for fish

MUHER E 12.08.78-DT-835381

C03 (17.09.79) A23k A23p

Animal feed in the form of expanded croquettes contg. vegetable and/or animal protein, starch matter, fatts and/or oils, and optically feed supplements is prepd. by screening the ingredients by a fluidisation process, then blending them. They are then mixed with water and compacted for 1-2 minutes at 125-150°C at a pressure of 110-130 atmos. and injected with steam. The product is expanded by being passed through a special nozzle with many small openings. The croquettes have a residual water content of 20-40%, and are dried on a multiple band drier and are opt. sprayed with fats and/or oils.

The feed is partic. suitable for aquatic animals. It is stable on storage, well accepted by the animals and has high nutritive content. 17.5.79 as 876332 (7pp520)

LESI ★ D13 71796B/40 ★BE -876-550

Treating fats, esp. palm oil - by interesterification and fractionation, to obtain an oil with high unsaturated content, and solid fats

LESIEUR COTELLE SA 31.05.78-FR-016182 (31.05.78-FR-016181)

(D23) (17.09.79) A23d C11c

Natural fat, partic. palm oil (fraction) is treated with a satd./unsatd. ratio of 0.3-1.2, to produce one or more edible fractions, one oil having a high unsatd. fatty acid content and opt. another solid being usable as a cocoa butter substitute. The oil, or a fraction of it, or a pretreated fluid intermediate fraction, is submitted to a catalytic interesterification at 20-80°C. The reaction is followed and opt. proceded by ≥1 fractionation using solvents at -20 to + 35°C to obtain a fluid fraction of iodine value >75, pref. >80, contg. unsatd. triglycerides having a tri-unsatd content > 20% and deprived by trans isomers. The fraction has the properties of edible oils such as peanut and olive oil.

The above process gives iodine values >75. It also results in a nutritionally very favourable tocopherols/unsatd. fatty acid ratio superior to known oils. 25.5.79 as 876550 (43pp597)

ALPI- ★ D13 71817B/40 ★BE -876-622

Preparing whey products equiv. to skimmed milk in protein - by ultrafiltration concn. and mixing with other whey products (OE 15.8.79)

ALPI MILCHIND REG 30.05.78-OE-003909

(17.09.79) A23c-21

The liq. paste or powdered whey products in which the proportions of protein, lactose and ash contents correspond to those of skimmed milk are prepd. by concentrating the whey by ultrafiltration to about $^1/_{20}$th, the concentrate opt. being dried and mixed with whey, conc. whey or whey powder in a proportion of about 4/5 based on the dry material.

The products are used as additives in human and animal foods. The process increases the proportion of protein enabling it to be suitable for the same food uses as skimmed milk. 29.5.79 as 876622 (9pp597)

CNDG ★ D13 71848B/40 ★CA 1062-538

Preventing potatoes exposed to light from turning green - by coating with thin film of surfactant

CANADIAN MIN OF AGR 19.08.74-US-498813

A97 (A25) (18.09.79) A23b-07/16 A23l-01/21

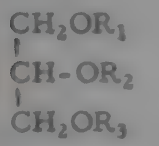
Greening of raw unpeeled potatoes is prevented by applying an emulsion of water and surfactant in sufficient amt. to form a continuous film on drying.. The surfactant contains long chain fatty acyl gps. at least one polyoxyalkylene or polyhydroxy gp., and has an HLB below 15.

Specifically the emulsion contains ≤ 15 % surfactant. Sufficient is sprayed on to give a surfactant pickup of 0.15-0.75 g. per kg. of potatoes. The surfactant is pref. a long chain sorbitan fatty acid ester, long chain polyoxyethylene sorbitan fatty acid ester, or long chain polyoxyethylene fatty acid ester, and has HLB 8.5-11.5. The surfactant film is more effective if the compsn. additionally contains up to 15 wt.% of an aliphatic hydroxy acid of 3-6C, or its lactone, esp. lactic, ascorbic, tartaric, isoascorbic or citric acids. 8.8.75 as 233131 (24pp955)

QUAK ★ D13 71852B/40 ★CA 1062-612
Prodn. of stable, free flowing vitamin/C prod. - comprises admixing vitamin/C with edible fatty material, solidifying with cooling agent, subdividing and removing cooling agent
QUAKER OATS CO 23.01.75-US-543437
B03 E13 (18.09.79) A61k-31/37

Prodn. of a stable vitamin C prod. comprises admixing 5-50 pts. wt. vitamin C with 95-50 pts. wt. of an adible liquified fatty material. This mixt. is then admixed with a cooling agent, pref. dry ice in an amt. sufficient to maintain the fatty material solidified throughout the rest of the process. The mixt. is subdivided until a major portion passes through a No. 20 U.S. sieve but has a particle size > 75 u in dia. The cooling agent is then removed by sublimation or evapn.

The fatty material has a m.pt. of 100-200°F and is either a 12-20C satd. aliphatic acid or a glyceride of formula (I):-

(I) 

$$\begin{array}{l} CH_2OR_1 \\ | \\ CH\text{-}OR_2 \\ | \\ CH_2OR_3 \end{array}$$

(where R_1 is an acyl radical derived from a 12-20C satd. aliphatic acid; and R_2 and R_3 are R_1 or H).

A vitamin C prod. which is uniform in size yet extremely stable free flowing and adaptable tothe food industry is produced. 6.1.76 as 242983 (11pp954)

DASP- ★ D13 B/40 ★DK 7800-723
Fruit and vegetables peeling process
DANSKE SPRITFABRIKK 17.02.78-DK-000723
(10.09.79) A23n

DMAR/ D13 20522R/13 =DS 1918-130
Centrifugal extraction of olive oil
DE MARTINI M (DMA /) 14.05.68-IT-007025
*P41 (27.09.79) *FR2007-821 B04b-01/20*

A solid-bowl centrifuge for the sepn. of solids/liquid mixtures or of solids with two liquids of different specific gravity has the centrifugal drum separated into a pre-chamber and an after-chamber. The wide end of the conical prechamber is joined to a separation chamber with the opposite conicity which surrounds the after-chamber. The separation chamber is closed at its narrow end and is bounded by the revolving walls of the centrifugal drum.

The conveyor screw extends in the prechamber up tothe wide end of the separation chamber. The result is a better separation of the finer solid particles and a better clarification of the liquid, with little extra design effort and without loss of already clarified liquid. 10.4.69 as 918130 (9pp39)

NEST D13 92779X/50 =DS 2532-308
Serotonin isolation from coffee wax - by hydrolysing an alcoholic solution of coffee wax with aqueous strong base
SOC PRODS NESTLE SA 30.05.75-CH-006986
*B02 (27.09.79) *DT2532-308 C07d-209/16*

Sepn. of serotonine from coffee wax comprises dissolving coffee wax, (10 pts.wt.), in a 4-8C alcohol, (≥5 pts.wt.) followed by hydrolysis with an aq. soln. of a strong base at 80-100° for 10-24 hr. in an inert atmos.

The prod. is then isolated as serotonine sulphate, mixed with creatinine sulphate.

The prod. is used as a vasoconstrictory, antihypertonic, antiallergy, antipsychotic, anti-migraine and anti-tobacco agent. 18.7.75 as 532308(4pp47)

LINM D13 12473A/07 =DS 2635-117
Edible ice gasified homogenised then deep-frozen - esp by gas atomising into freezer drum to produce fine structure
LINDE AG 04.08.76-DT-635117
*(27.09.79) *DT2635-117 A23g-09/20*

Process for making icecream comprise mixing nitrogen to the icecream mixt. before homogenisation, homogenising and then atomising into a freezing zone with the help of another gas, which pref. has a temp. of -30 to -100°C.

A suitable appts. comprises a homogeniser, provided with means of supplying icecream and gas, connected to a deep cooler to which gas is also supplied and connected in turn to a moulding appts. 4.8.76 as 635117(4pp

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WIEN/ ★ D13 71890B/40 ★DT 2810-
Straw dehydration machine - with impact rotor for crushing
centrifuge for solids-liquid separation
WIENEKE F 14.03.78-DT-810944
C03 P12 P41 (27.09.79) A01d-43/10 A01d-91/04 A23n-17 B0
13/06 B02c-19/12

A machine for the mechanical preparation and dehydrati
of straw and stalks treats the charge continuously in an
ultra-frequent compression-expansion process. Solids
and liquid are finally separated in a centrifugal field.

Two parallel worm conveyors pref. take the material
to a space where foreign matter can accumulate and, wh
the pressure becomes excessive, burst a shear pin to be
discharged. A limit switch cuts off the drive; a second
one responds when the tunnel is overfull.

This machine combines a higher efficiency with a smaller constructional effort and a lower power consump
tion.

The crushing section consists of a rotor with the impa
tools and a split stator with two halves and ribs. Transfer slots move the material to the centrifuge on the same
drive shaft.

The blades of the centrifuge are preceded by guide discs. Liquid and solid residue are discharged through separate channels. 14.3.78 as 810944 (9pp39).

JURG/ ★ D13 71896B/40 ★DT 2811-22
Invigorating and disease-preventing foodstuff - contg. vitamin/
vitamin/A, a vitamin/B, hawthorn, juniper, silica, garlic, yeas
minerals and trace elements
JURGENS E 15.03.78-DT-811222
B05 (27.09.79) A23l-01/30 A61k-35/78 A61k-37/02

New foodstuff contains vitamin E, vitamin A, vitamin B, hawthorn, juniper, silica, garlic, brewer's yeast, miner
als and trace elements. The foodstuff has an invigorating effect and reduces the incidence of diseases such as infections, hypertension, headaches etc.

Specifically the foodstuff is made up by simple mixing of the ingredients, and does not have to be formulated as an emulsion, tablets etc. A typical portion of the foodstuff contains ferrous iron capsules, vitamin E capsules, vitamin A capsules, vitamin B complex tablets, juniper berry oil capsules, garlic capsules, mineral and trace element powders, and powdered brewer's yeast. 15.3.78 as 811222 (11pp280).

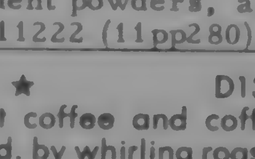
EDEL ★ D13 71906B/40 ★DT 2811-35
Roast coffee and coffee concentrate mixt. - for coffee bags,
prepd. by whirling roast coffee while spraying with coffee extract
EDELFETTWERKE SCHLUTER 16.03.78-DT-811353
(27.09.79) A23f-01/08

Coffee mixt., for use in instant coffee bags, is prepd. by coating ground or comminuted roast coffee particles with a thin layer of liq. coffee concentrate, and drying the layers to form granules of roast coffee particles surrounded by a coffee extract layer.

The mixt. is granular, free-flowing and easily packed in bags. When introducing the bags in hot water, the mixt gives off more aroma materials than finely roast coffee alone. 16.3.78 as 811353 (13pp200).

FIRM ★ D13 72125B/40 ★EP ---4-352
1,6-Naphthyridine and alkyl derivs. - used as flavours
FIRMENICH SA 16.03.78-CH-002863
B02 E13 (03.10.79) A23l-01/22 C07d-471/04
D/S: E(CH, DT, FR, GB, IT, NL, SW).

The use of naphthyridine cpds. of formula (I) as flavourings for foods, drinks, pharmaceutical compsns. and tobacco is claimed, as are flavouring compsns. contg. cpds. (I):



(I)

(where R_1 and R_2 are H or lower alkyl).

Cpds. (I) are esp. useful for imparting a roasted, grilled or burnt flavour to meat-based foodstuffs or meat substitutes.

5.3.79 as 100799 (7pp367).
(F) ISR: DT2818290; DT2433840.

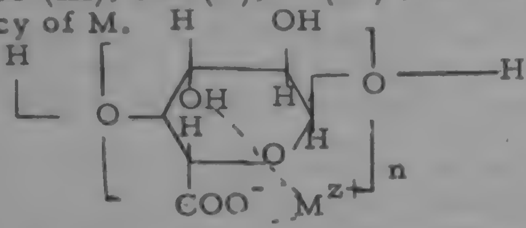
ANDR/ ★ D13 72195B/40 ★FR 2412-268
Solidification of liquids, powders etc. - using urea formaldehyde for animal feeds and fuels
ANDRIEUX-VAQUIE R 26.12.77-FR-039416
A21 C03 H09 (A81 A95) (24.08.79) A23k-01/17

Liquid, semi-liquid, powdery and pasty products are agglomerated by the addition, at ambient temp. of 20% urea-formaldehyde to which is added 4-5% of a hardener. A specific cas is animal feed block "Minuramel Bloc" (RTM) which contains molasses, salt, urea, ammonium phosphates, trace elements and vitamins.

The process is partic. suitable for making animal feed supplements and also for fuels. 26.12.77 as 039416 (3pp520)

EGYE D13 75406Y/42 =GB 1553-749
Metal oligo- and poly-galacturonate complexes - for use as food additives and medicaments
EGYT GYOGYSZERVEGYESZETI (MAGY) 31.03.76-HU-MA2754
*A11 B04 E12 (A96 A97 B03) (03.10.79) *NL7703-475 A61k-31/71 C08b-37/06*

Metal iron complexes of oligo- or polygalacturonic acids of formula (I) are new. In the formula n is 2-145; M is Fe (II), Cu (I), Cu (II), Mg (II), K (I), Co (II), Mn (II), Zn (II), Cr (III), Mo (V), V (IV), or Ni (II); and Z is the valency of M.



(I)

The cpds. are converted into pharmaceutical compsns. for oral admin. or are mixed with foodstuffs and serve as a source of essential metal elements. Pref. n is 2-20 (and esp. 10) where pharmaceutical compsns. are to be formed, or n is 20-500 where the cpds. are to be mixed with foodstuffs. Used e.g. in treatment of diabetes or anaemia, for the prophylaxis of cardiac infarction, atherosclerosis and nephrolithiasis, for promotion of wound healing and for geriatrics. 29.3.77. as 013137 (16pp945)

GENO ★ D13 72239B/40 ★GB 2016-894
Stable, neutral aq. protein dispersions - contg. protein micellar masses dispersed in water
GENERAL FOODS CORP 21.03.78-CA-299433
(03.10.79) A23c-11 A23j-03 A23l-02/38 C07g-07

Aq. protein dispersion consists of a stable protein micellar mass (I) in H_2O which has pH value 6.2 up to unacceptable alkalinity.

The above neutral, aq. protein dispersion has many of the characteristics of cow's milk (good stability, good taste, and low viscosity), and also has high protein concn. (up to 75% w/v). The dispersion also resists coagulation by hot H_2O-based beverages.

The dispersion pref. has pH 6.2-8.0, pref. 6.7-7.1, and contains $<75\%$ pref. 4-18% esp. 4-12% w/v (I). (I) is derived from protein (P) of animal, microbial, or pref. plant origin, esp. starch cereals or legumes, or oil seeds. The dispersion pref. also contains food grade buffering agents (esp. 0.05% w/v each of Na hexametaphosphate and Na_4 pyrophosphate), and one or more flavouring and colourings agents and/or sweeteners. 28.2.79. as 007061 (7pp478)

CADB ★ D13 72240B/40 ★GB 2016-896
Solid, sterilised, texturised vegetable protein prods. - simulating meat prods., prepd. by controlled hydration of vegetable proteins
CADBURY TYPHOO LTD 22.03.79-GB-010090 (23.12.77-GB-053693)
(03.10.79) A23j-03

Solid, sterilised, packaged, textured vegetable protein prods. are prepd. as follows: (a) the vegetable protein (I) is hydrated with H_2O under controlled conditions (pH <8.5); (b) partially hydrated protein is drained; (c) a vegetable or animal fat (II) (slip pt. $>25°$ but $<30°$) is added together with a combination of hydrocolloidal edible gums (III) and more H_2O; (d) the prod. is comminuted, filled into cans, which are sealed and sterilised.

Methods affords simulated solidified food prods., and is esp. useful for the prepn. of simulated canned pork luncheon meats. 22.3.79. as 010090 (5pp478)

NEST ★ D13 72241B/40 ★GB 2016-901
Powder agglomerating appts. - in which a stream of powder and moistening fluid are projected against a conical baffle
SOC PROD NESTLE SA 14.03.78-CH-002745
J04 (03.10.79) A23c-09/16 B01j-02/16

In an appts. for agglomerating powder, a stream of powder and moistening fluid is directed at a conical baffle and subsequently collected and dried. The baffle is oriented with its apex directed upstream. The apex angle of the baffle is 20°-40° for the stream to move at 130-200 m/sec.

The appts. may be used to agglomerate powdered skimmed milk with a moistening fluid comprising steam, moist air, or fine water droplets. The invention gives large agglomerates of uniform size. 8.3.79. as 008183 (7pp525)

GENO ★ D13 72283B/40 ★GB 2017-146
Acidic proteinaceous beverages - contg. protein micellar masses obtd. from protein sources
GENERAL FOODS CORP 21.03.78-CA-299364
(03.10.79) A23j-03 A23l-02/38 C07g-07

Known acidic beverage compsns. of pH<3.7 in dilute ready-to-drink form are improved by including a protein micellar mass (I). Incorporating (I), the compsns. may contain high protein levels, but have low viscosity and good dispersibility. In addn., compsns. are prepd. simply by methods which do not denature(I).

Dilute compsns. have pH pref. 2.9-3.4 esp. 3.0-3.2 and may contain up to 30% pref. $<7\%$, esp. 2-6.5%, partic. 3.5-6.5 w/v of(I). (I) is derived from protein of animal, microbial or pref. plant origin.

Compsns. also contain a good grade acid (pref. citric, malic or tartaric acid). 28.2.79. as 07047 (4pp478)

OHNO ★ D13 72490B/40 ★J5 4107-516
Feedstuff compsn. for trapping animals - comprises feedstuff mixed with a bait e.g. cycloheximide and filled in e.g. gelatin, PVA or PVC capsule
OHNO GIJUTSU KENKYU 13.02.78-JA-015121
A97 C03 P14 (23.08.79) A01m-23/20 A01n-23

The feedstuff includes naphthalene, cresol, BHC, NaOH, ammonium, cycloheximide as bait among which cycloheximide is most pref. The feedstuff is used filled in capsule made of gelatine, PVA, vinyl chloride polymer, etc.

In an example, 100 g maize powder, 15 g oil, 35 g flour are mixed with one another to give conventional feedstuff, and this feedstuff is further mixed with 10 ml cycloheximide. When the feedstuff was used, 16 rats were caught, and when a conventional feedstuff was used, only 7 rats were caught. 13.2.78 as 015121 (4pp22)

HOHN ★ D13 72500B/40 ★J5 4107-530
Inhibiting brown colouration of phospholipid on heating - by adding substance generating carbon di:oxide on heating e.g. ammonium carbonate to mixt. of phospholipid and oil or fat
HOHNEN OIL KK 10.02.78-JA-014614
E11 (D23) (23.08.79) A23j-07/02

Upon heating a mixt. of 0.2-99.8 wt. pts. of phospholipid and 100 wt. pts.-0 wt. pts. of oil or fat at $\geqslant 150$°C, a cpd. which can generate CO_2 gas by heating is added to the system before or during the heating, whereby brown-colouring of the phospholipid can be inhibited. The phospholipid may be soybean, corn, cotton seed oil, egg white, etc. The oil or fat may be soybean oil, corn oil, cotton seed oil, etc.

The cpd. which can generate CO_2 gas by heating includes ammonium carbonate, ammonium bicarbonate, sodium bicarbonate, potassium carbonate, magnesium carbonate, etc. The amt. of the cpd. to be used is $\nless 5$ wt.%, pref. $\nless 20$ wt.%, relative to the phospholipid. 10.2.78 as 014614 (2pp22)

NNSH ★ D13 72501B/40 ★ J5 4107-532
Food and beverage prepn. - by adding a carboxyalkyl deriv. of gluten to give good foaming and emulsification
NIPPON SHINYAKU KK 07.02.78-JA-013145
(23.08.79) A23j-03/02 A23l-01

When the carboxyalkyl deriv. of gluten is mixed with food or drink, such as bread, noodles, paste, etc., their properties are improved.

Gluten, from e.g. flour, is subjected to carboxylalkylation with e.g. monochloroacetic acid, monobromoacetic acid, monochloropropionic acid, monochlorobutyric acid, etc., so that the amino and SH gps. of gluten are carboxyalkylated. It is necessary to carboxyalkylate $\nless$5, pref. $\nless$ 10% of the gps. 7. 2. 78 as 013145 (3pp22)

OHNO/ ★ D13 72502B/40 ★ J5 4107-543
Roast chestnut treatment, for storage - comprises immersing in or spraying chestnuts with waxes etc., and drying them
OHNO S 08.02.78-JA-012305
A97 (23.08.79) A23b-07/16

Roast chestnuts are coated with $\geqslant$1 materials of : water insoluble Japan wax, bees wax, shellac, natural resin, paraffin wax, cellulose ether, cellulose ester, (co)polymer of an ethylenically unsatd. cpd. ,polycondensate (co)-polymer and polyurethane, and then stored.

The roast chestnuts can be stored for a long period of time without any damage to their flavour, taste and appearance. The roast chestnuts are immersed in, or sprayed with a soln. of the above material in an organic solvent, followed by drying.

In an example, a soln. of 0.05 kg of styrene-butadiene copolymer (with a 10% solid content) is sprayed over 1 kg of roast chestnuts, followed by drying at 40-50°C. After 4 weeks storage, there is observed no degradation of flavour, taste or appearance of the chestnuts. 8.2. 78 as 012305 (4pp22)

MORG ★ D13 72504B/40 ★ J5 4107-554
Storage stable cottage cheese-like food prodn. - by adding lactic acid bacteria or coagulating agent to milk, dehydrating, obtd. curd adding low methoxylated pectin and heating
MORINAGA MILK KK 13.02.78-JA-014120
(23.08.79) A23c-19

Prodn. of cottage cheese-like food (I), comprises (1) forming curd by the addn. of lactic acid bacteria or coagulating agent (II) to milk or mixt. of milk (III) and soybean milk (IV) after sterilisation and cooling, (2) dehydrating the curd, to adjust the moisture content to 16.5-25.0 wt. % (3) adding 0.1-1.0 wt. % of low methoxylated pectin, (4) filling the mixt. in a vessel and (5) heating the mixt.

(I) can be preserved for long period. (I) has appearance of tofu (soy bean curd) and cottage cheese-like taste. Pref. (III) is whole milk, defatted milk, condensed milk, etc. When (III) and (IV) are used as raw materials, the quantity of solid in (IV) should be < 25 wt. % based on the sum of the solid in (III) and (IV). Examples of (II) are calcium sulphate, organic acid, gluconodelta lactone, etc. 13. 2. 78 as 014120 (13pp42)

JAOR ★ D13 72505B/40 ★ J5 4107-560
Gelling agent prodn. for food - by mixing a gelatin soln. and carrageenan soln., and drying
JAPAN ORGANO KK (NOSU-) 08.02.78-JA-012287
(23.08.79) A23l-01/04

Prodn. of gelling agent (I) for food, comprises (1) mixing 3-40 wt. % gelatin soln. (II) and 2-10 wt. % carrageenan soln. (III), in the wt. ratio of (II)/(III) = 3/1-10/1, to prepare a clear soln., and (2) drying the soln.

(I) has high solubility, high solidifying temp., short solidifying time, high jelly-strength, high nutritive value and good texture.

(II) and (III) are mixed in relatively high temp., cooled to 40-60°C, spread on a plate or vat, solidified by cooling and then dried. The dried product is ground to powder or granule, as required. When a small amt. of natural gas is added to the mixt. of (II) and (III), the texture of foods produced from (I) can be improved. In this case, 1-5 wt. % natural gum soln. is mixed with the mixt. of (II) and (III), where the wt. ratio of the amt. of natural gum soln. to the amt. of the mixt. of (II) and (III) should be 1/5-1/20. 8. 2. 78 as 012287 (5pp42)

KANE- ★ D13 72506B/40 ★ J5 4107-5
Prodn. of granular material for making sparkling drinks - by mixin fruit or vegetable extract, sodium bicarbonate and wate granulating coating with sparkling agent and polysaccharide etc.
KANEBO SOKUHIN KK 09.02.78-JA-014620
(23.08.79) A23l-02/40 B01j-02

Method comprises (1) mixing the extracts from fruits an vegetables, sugars, acids, sodium bicarbonate and wate (2) granulating the mixt., (3) coating the surface of the granule with edible sparkling agent and natural polysaccharide, (4) granulating the mixt. to sphere and drying th granule.

The prod. sparkles uniformly when dissolved in water or milk at low temp., and has natural taste. The mixt. of prod. and milk has yoghurt-like texture.

The acid is e.g. citric acid, malic acid, tartaric acid etc. The sparkling agents e.g. albumin-product produce from animals and/or vegetables. The poly saccharide is e.g. gum arabic, pectin, tragacanth gum, locust bean gum, etc. 9. 2. 78 as 014620 (6pp42)

HOHN ★ D13 72573B/40 ★ J5 4107-90
Hot plate cooking oil prepn. - by adding yolk lecithin and op oleophilic surfactant to liq. vegetable oil
HOHNEN OIL KK 14.02.78-JA-015799
(24.08.79) A23d-05/02

The oil is obtd. by blending 0.5-5 wt. % yolk lecithin, and opt. oleophilic surfactant for food, with liq. vegetable oi The oil is suitable for baking and frizzling meat and vege ables using a hot plate. Colouration and spattering of the oil are prevented.

Pref., the vegetable oil is bean oil, corn oil, rapesee oil, cotton seed oil, sesame oil, safflower oil, sunflower oil and/or peanut oil, etc.; and the surfactant is monogly ceride of fatty acid, sorbitane ester of fatty acid or propy -eneglycol ester of fatty acid. Its colouration at > 180° is prevented by the used of yolk lecithin for soybean lecithin. 14. 2. 78 as 015799 (2pp170)

HOHN ★ D13 72709B/40 ★ J5 4108-81
Prodn. of edible oil for cooking and baking on iron plate - by mixing vegetable oil with a lecithin and a glycerine mono:caprylic aci ester
HOHNEN OIL KK 15.02.78-JA-016347
(25.08.79) A23d-05/02

Prodn. of edible oils for cooking and baking on iron plate comprises mixing a vegetable liq. oil with lecithin (i.e. phosphatidyl-choline) in an amt. of 0.5-5.0 wt. % based o the said vegetable oil and glycerine-monocaprylic acid ester in an amt. of 0.1-3.0 wt. % based on the vegetable oil. The resulting oil mixture is sufficiently solubilised.

Pref. lecithin is soyabean lecithin, egg yolk lecithin, corn lecithin, cotton seed lecithin, or rape seed lecithin and the amts. of the lecithin prevents spattering due to water in the food prod. in the cooking and baking step on the iron plate.

The cooking edible oil is used for baking vegetable and beef on the heated iron plate. 15. 2. 78 as 016347(2pp15)

NIKM D13 07864W/05 = J7 9027-323
Coating maltitol-contg particles with fine saccharide - to form non-caking powder useful as low-calorie sweetener
NIKKEN CHEM CO LTD (NKKA) 14.08.73-JA-090567
*(D17) (10.09.79) *DT2429-872 C07h-15/04 C13k-13*

Composite maltitol powder, useful as a non-agglomerating, low calorie sweetener, consists of core particles (A) contg. >50 (pref. >70) wt. % maltitol and fine saccharide particles (B), having a dia. < 1/2 dia. of (A). (B) covers surface of (A) so that composite powder does not tend to cake and is free-flowing for $\geqslant$2 hrs.

(B) is pref. a mono-saccharide, esp. glucose or fructose, a disaccharide, esp. saccharose or lactose, or a powdery wheat gluten, dextrin, starch or cellulose, and (A) are of dia. 100-400 (pref. 400-1700)μ and (B) have dia. 20-350 (pref. 40-170) u, the ratio (B): (A) being 10-100: 100. 14. 8. 73 as 090567 C07h-15/04, C13k-13/00 (10. 9. 79) NIKKEN CHEMICAL CO LTD (4pp)(J 50046619)

NIKM ★ D13 72972B/40 ★ J7 9027-413
Liq. foodstuff solidification - by addn. of the redn. prod. of the partial hydrolysate of starch
NIKKEN CHEM KK (MATY) 24.00.74-JA-003139
(10.09.79) A23c-09/12 A23c-15 A23l-01

The redn. prod. of the partial hydrolysate of starch having a dextrose equivalent of 7 to 20 is added to liquid foodstuff as solidification base material, and the resultant is dried, to easily solidify the liq. foodstuff. 24. 00. 74 as 003139 A231-1/00, A23c-9/12, A23c-15/00 (10. 9. 79) MATSUYA KAGAKU KOGYO KK NIKKEN CHEM KK (4pp22)(J50094148)

HOUS- D13 80928A/45 = J7 9027-416
Preventing green colouration of garlic paste - by preparing the paste from garlic granules in the dormant state
HOUSE SHOKUHIN KOGY 11.03.77-JA-026065
*(10.09.79) *J53113-051 A23l-01/21*

The method comprises (1) peeling and heat-treating garlic granules in the dormant state, (2) mashing them to a paste (3) opt. preserving it in the frozen state, (4) defrosting it, (5) adding a material contg. alliin-decomposing enzyme (alliinase) and (6) adjusting the pH of the paste to $<$5.

Greening of garlic paste which has often been found in garlic paste packed in tubes at pH $<$5 can be prevented. 11. 3. 77 as 026065 A231-1/212 (10. 9. 79) HOUSE SHOKUHIN KOGY (4pp)(J53113051)

TOKA- ★ D13 72973B/40 ★ J7 9027-418
Prepn. of modified protein useful as foodstuffs additive - by adding sodium salt e.g. tartrate, citrate or glutamate, then adding ethyl, n-propyl or isopropyl alcohol
TOKAIKU SUISAN KENK 07.10.72-JA-100847
(10.09.79) A23j-03

To protein is added 0. 1-5 wt. % of Na Cl, $MgSO_4$, Na pyrophosphate, Na tripolyphosphate, Na malonate, Na tartrate, Na citrate or Na glutamate and ethyl alcohol, n-propyl alcohol or isopropyl alcohol at room temp. to 70°C to give the modified protein.

The resultant is useful as additive for foodstuff. 7. 10. 72 as 100847 A23j-3/00 (10. 9. 79) TOKAIKU SUISAN KENKYUSHO-CHO (3pp22)(J49055868)

WAKD ★ D13 72975B/40 ★ J7 9027-423
Mfg. seasoning for foodstuffs - includes mixing liquefied cheese with caramel and opt. sugar and heating the mixt.
WAKODO KK 10.03.72-JA-024579
(10.09.79) A23l-01/22

Liquefied cheese is mixed with caramel or caramel and sugar, and the resultant is heated at 100 to 130°C. The resultant may also be mixed with phosphate, sodium casein salt, emulsifying agent, and other conventional additives. 10. 3. 72 as 024579 A231-1/226 (10. 9. 79) WAKODO KK (5pp22)(J48091254)

MOMI D13 11751Y/07 = J7 9027-887
Snack having good flavour and texture produced from plant protein - by boiling with water in the presence of salts and adding the prod. to other food materials
MORINAGA & CO LTD 19.06.75-JA-073646
*(12.09.79) *J51151-346 A23l-01/32 + A23g-03 A23j-03*

(1) Refined plant protein is suspended in water. The suspension is boiled for 5-60 minutes at 80-130°C in the presence of salts and the obtd. protein is recovered from the suspension.

To the protein, sub-materials such as starch, sugar, starch syrup, sorbitol, seasonings and inorganic salts, and surface active agent are added. To this mixt. animal proteins such as domestic animal meats, chicken and fish meats are added in the rate of 1-10 parts per 10 parts of plant protein, and the mixture is kneaded. The obtd. mixt. is moulded, roasted and aged. 19. 6. 75 as 073646 A23j-3/00 A23g-3/00 A231-1/325 (12. 9. 79) MORINAGA CONFECTION KK (3pp)(J51151346)

AJIN D13 09339A/05 = J7 9027-888
Fibrous proteinaceous food prodn. - by kneading protein-contg. material with water, applying shearing stress to mixt., heating and sepg. using roller
AJINOMOTO KK 10.06.76-JA-067983
*(12.09.79) *J52151-756 + A23j-03*

Prepn. of fibrous proteinous food material comprises kneading a protein-contg. substance with water, applying shearing stress to the mixt. while heating in a plasticised condition to orient protein molecules and sepg. it as fibres with a roller. Fibrous food material, having desirable meat-like effect can be prepd. economically

As starting protein-contg. substance vegetable proteins such as oily seeds (e.g. defatted product or separated protein of soy bean, peanut, cotton seed, etc.), grain protein (e.g. wheat glutan, corn gluten, etc.). animal protein and microbial protein can be used and they may contain $<$60% of nonprotein material. To this 20-65% (pref. 30-65%) of water is added and mixed homogeneously. The mixture is then heated to 80-250°C (pref. 100-200°C) at $<$500 psi (pref. 100-350 psi).

Orientation of the mixt. under heating and pressure, can be practiced with an extruder. It is important to regulate the condition so that obtd. sheet or bar material is not swelled (pref. $<$10%). Sheet material is sepd. into thin long fibres with sepg. roller, which has many file-like teeth on its surface. 10. 6. 76 as 067983 A23j-3/00 (12. 9. 79) AJINOMOTO KK (3pp)(J52151756)

MILE D13 00037Y/01 = J7 9027-889
Textured protein concentrate as meat substitute - prepd. by aq. extn. of extruded protein to improve flavour and texture
MILES LABORATORIES INC 15.09.75-US-613090
*(D12) (12.09.79) *BE-845-331 A23j-03*

Prepn. of a concentrate of textured proteins from a protein extrudate contg. water-soluble constituents is claimed. The protein extrudate of mass/vol. ratio 85-150 g/1 (esp. 90-115g/1) is extracted with an aq. solvent ar pH 5. 5-6 (esp. pH 5. 7).

Texture protein, esp. soya protein, is used as a meat substitute in various meat prepns. The crude protein contains carbon hydrates and salts which adversely affect the taste and smell of the prod. The process provides a cheap way of improving the texture and taste of the prod. so that it more closely resembles meat enabling more to be used. 10. 9. 76 as 107972 (clg. 15. 9. 75-US-613090) A23j-3/00 (12. 9. 79) MILES LABORATORIES INC (7pp)(J52041261)

TRAN- ★ D13 B/40 ★ OE 7608-788
Deep fried chipped potato prods.
TRANSTECHNIK AG 26.11.76-OE-008788
(15.09.79) A23l-01/21

TRAN- ★ D13 B/40 ★ OE 7608-789
Deep fried chipped potato prods.
TRANSTECHNIK AG 26.11.76-OE-008789
(15.09.79) A23l-01/21

MEDI= ★ D13 73073B/40 ★ SU -603-162
Granulated animal feed concentrate prodn. - includes forming protective coating in soln. of cellulose derivs. in acetone or dioxan, with addn. of mineral oils to improve storability
MEDICAL ENG RES INS (LIVA= MICR=) 28.06.76-SU-376003
A97 C03 (15.05.79) A23k-01

Particles of feed concentrates can be provided with protective coatings by dispersing them in a polymer soln, and then expelling the solvent.

The storage properties and esp. the flowability of the product is improved by introducing into the polymer soln. a nonpolar oil, expelling the solvent and, prior to drying, washing the product with a solvent for the nonpolar oil. The method can be used for preservation of hygroscopic feed concentrates contg. amino acids, enzymes, vitamins etc.

The pref. polymers are cellulose derivs. in particular acetylcellulose or cellulose acetophthalate, acetopropionate or acetobutyrate; the substitution degree is 1. 3-2. 5; the amount is 3. 0-15. 0 wt. % w.r.t. the total solids. The pref. nonpolar oils are vaseline or silicone oils. The pref. polymer solvents are acetone and dioxane; the soln. contains 1. 0-10. 0% of the polymer. The pref. solvents for the nonpolar oils are low-boiling fractions of petroleum ether and hexane.
Davydov, A.B., Meshkova, T.A., Solod[illegible]k, V.D. et al
Bul. 18/15.5.79. 28.6.76. as 376003 (3pp70)

KALI= ★ D13 73308B/40 ★SU-641-948

Powdered growth stimulant for animals, plants and microorganisms - prepd. by treating dried and fragmented peat with conc. nitric acid, neutralising with gaseous ammonia and drying

KALININ PEAT IND 20 04.77-SU-479130

C03 (C04 D16) (16.01.79) A01n-05

Pulverulent nitrohumic prepn. stimulating growth of animals, plants and microorganisms, is produced by treating with HNO_3 peat of a medium or increased decomposition stage, and then neutralising the product with an alkali.

The growth-stimulating action of this product can be enhanced by first drying the peat at 20-100°C to 5-10% moisture; comminuting; treating with HNO_3 (in an amt. of 15-50% calculated as the monohydrate w.r.t. dry peat) at 15-50°C for 5-40 min. neutralising with gaseous ammonia and drying to 5-30% moisture. The adhesion of the product to various seeds can be increased by grinding to 0.05-0.16 mm.

Dyachkov, G.S., Kruglov, V.P., Belova, G.N.
Bul. 2/15.1.79. as 20.4.77. as 479130 (3pp70)

POTA= ★ D13 73314B/40 ★SU-641-954

Processing potatoes for fodder mfr. - by comminuting, sulphating, pressing and separately utilising liquid and solid phases as animal feed

POTATO FEEDSTUFFS 05.03.77-SU-464320

C03 (16.01.79) A23k-01/14

Potatoes are comminuted and pressed, and the resulting liquid and solid phases are separately processed to obtain fodder.

The process is improved by subjecting the comminuted potatoes, before the pressing, to sulphitisation with 0.05-0.15% of potassium or sodium sulphite, or as equivalent quantity of a mixt. of Na_2SO_3 soln. with HCl. By this method, . the loss of the solids during the subsequent pressing is reduced; the quality of the liquid and the solid phases is improved, and the storage time can be extended.

Averyanov, K.G., Vecher, A.S. Mironovich, E.F. et al
Bul. 2/15.1.79. 5.3.77. as 464320 (2pp70)

GREE- ★ D13 73411B/40 ★US 4168-642

Broccoli spear quartering appts. - with resilient holding cups transported through three cutting stations

GREEN GIANT CO 28.10.77-US-846373

P62 (25.09.79) B26d-01/28 B26d-03/26

A vegetable cutting machine includes vegetable holding cups which are conical in shape and have a bottom opening through which a portion of the vegetable extends. A cutter is positioned beneath the opening to cut the portion of the vegetable extending from the opening.

The vegetables are clamped as cutting commences. A conveyor advances the cups relative to the cutter. Pref. the cup is resilient and includes $\geqslant 2$ slots extending upwardly from the opening. Pref. there are two cutting stations each including a cutting disc which extends upwardly into one of the two slots.

The appts. is used for cutting elongate vegetables, esp. broccoli spears. It accepts random length broccoli spears and precisely quarters them before cutting the quartered spears to a uniform length. 28.10.77 as 846373 (7pp295)

CAMP- D13 55773Y/31 =US 4168-657

Texturising vegetable protein using steam injection - to give bland meat-like prod.

CAMPBELL SOUP CO 31.12.75-US-645612 (09.05.77-US-794814)

*(D12) (25.09.79) *US4038-431 +A23j-03*

Protein is texturised in appts. which includes a mixer to form a slurry of protein and water, an advancer to move the slurry to a zone where a gas flow is injected, a treating zone to which the slurry is moved by the gas injection, a device at the end of the treating zone to maintain a back-pressure in the zone, a conduit communicating with the device which a restriction divides the flow to cause the protein to be caught on the restrictor where it is stretched by the gas flow, and a collector at the end of the conduit.

The restrictor pref. includes inwardly projecting radial members.

Parent relates to a method of texturising. 9.5.77 as 794814 Div. ex. 4038431 (7pp1376)

CALI- D13 36741Y/21 =US 4168-

**Mechanised halving and stoning of peaches etc. - for high yiel
cleanly cut fruit with little tearing**

CALIFORNIA PROCESSI (SILV/) 14.08.75-AR-260021

*+P28 (25.09.79) *FR2320-704 A23n-04/12*

Peaches are bisected and pitted using appts. which incl
des grippers for the fruit, a sensor for sensing the pre
ence or absence of a fruit in a gripper, and a device co
ected to the sensor for preventing operation of the grip
if a peach is not present. The gripper operates by bein
deformed into engagement with the peach.

Pref. the gripper includes a head with a cavity for r
ceiving a peach and a concave diaphragm between the fr
and cavity wall for releasably gripping the outer surfac
of the peach. 21.7.78 as 926915 Div. ex. 4109570 (9pp)

GENO D13 27209A/15 =US 4169-

**Protein isolate or micelle prepn. - from proteinaceous material,
extn. with solubilising salt soln. and pptn. by dilution (NL 3.4.78**

GENERAL FOODS CORP 30.09.76-CA-262397

*(25.09.79) *DT2742-129 A23j-01/12*

A protein isolate product is prepd. by (a) contacting a pr
tein source material with an aq. food grade salt soln. ha
ing a salt concn. of 0.2-0.8 ionic strength and a pH of
5.5-6.3 at 15-35°C to solublise protein in the source ma
erial and give a salt-solubilised protein soln., (b) diluti
the protein soln. to an ionic strength of <0.1 to cause
pptn. of a protein isolate in the form of a protein micell
mass; and (c) collecting the pptd. mass and pref. drying
Pref. the protein source material is selected from cerea
legumes and oil seeds.

The protein isolates are useful e.g. for protein fortif
cation of processed foods, emulsification of oils, and ad
tion to baked goods to give body. They may also be form
ed into protein fibres, act as food component binders sim
lar to egg albumen, and replace or extend wheat gluten i
the mfr. of wheat based products. 12.9.77 as 832036
(7pp990)

GOLD D13 86200A/48 =US 4169-10

**Lactic acid, citric acid and fatty acid partial glyceride mixed ester
prepd. by esterification of alkali metal lactate, lactic acid, citric aci
and fatty acid partial glyceride at 120-140 degrees**

GOLDSCHMIDT TH AG 28.07.77-DT-734059

*B05 C03 E17 (25.09.79) *BE-869-368 C11c-03/02*

Mixed esters of lactic acid, citric acid and partial glycer
des of fatty acids, whose carboxyl gps. are neutralised
with alkali to a mixed ester acid number of 10-200, are
prepd. by (i) mixing 0.5-2 moles of alkali lactate with
0.5-3 moles of lactic acid relative to 1 mole citric acid,
and (ii) esterifying the mixture at 120-140°C with citric
acid and subsequently at 120-140°C with 0.5-2 moles of th
partial glycerides of fatty acids per mole of citric acid.

The process can be carried out without the danger of saponification and without the use of the solvents, and the products, which have a neutral odour, are useful in pharmacy and cosmetics and in foods and animal feeds. 12.7.78 as 923987 (4pp990)

GRFJ D13 08089B/05 #US 4169-159

Decolouring moist heat treated pea flour - by extraction with hot aq. lower alcohol

GRIFFITH LABS INC 16.12.75-CA-241871 (18.12.75-US-642238)

*(25.09.79) *CA1045-894 +A21d-02/14*

Orange-brown colour-causing constituents are removed from moist heat-treated yellow pea flour in the mfr. of a high protein pea flour in the mfr. of a high protein pea flour.

The process comprises extracting the heat-treated flour with a 1-3C monohydric alcohol solvent at >40°C. The solvent contains $\leqslant 30$ vol.% of water in order to increase the extraction power of the solvent. The extraction removes the colour-causing constituents, and the residual solvent is then removed from the flour. Pref. $\geqslant 2$ monohydric alcohols are used in a mixt. as the solvent.

The process serves to remove bitter and pea flavours in raw flour and in flour that had been previously heat-treated to remove the bitter flavour. 20.7.77 as 817216

ORD ★ D13 73551B/40 ★US 4169-160

Dried soft curd cheese contg. alpha-cellulose - to improve water binding and textural properties

BORDEN INC 23.06.78-US-918585 (13.02.75-US-549726)

(25.09.79) A23c-19/02

Dried soft curd cheese is prepd. by heat-treating milk at 165-195°F for 5-30 mins., or at 280-300°F for about 30 secs. to promote reaction between whey protein and casein to maximise the water binding capacity of the prod; condensing the milk; letting it stand at least 6 hrs., adding 1-20% based on wt. of milk solids of a starter, and 1cc of rennet 100 per 10-125 lb. milk solids; and incubating for about 3 hrs. When the titratable acidity reaches 1.0-1.6, 0.5-10 wt.% of alpha cellulose based on the wt. of dried cheese is added, and the mixt. homogenised and dried.

Prod. is esp. a dried bakers cheese, farmers cheese, pot cheese, Neufchatel cheese or cottage cheese. The cheese has improved texture, gel strength and water binding capacity. 23.6.78 as 918585 (5pp955)

GENO ★ D13 73552B/40 ★US 4169-161

Meat analogues contg. no spun protein fibres - having lean and fatty phases, esp. simulating bacon

GENERAL FOODS CORP 01.10.74-US-510879 (22.03.72-US-236982)

(D12) (25.09.79) A23l-01/27

A bacon analogue comprises "fat" regions contg. fat, albumen and water, and "lean" regions contg. 10-25 pts. fat, ⩽ 15 pts. albumen, 6-25 pts. vegetable protein isolate, 0-15 pts. ground proteinaceous filler, ⩽15 pts. colouring and flavouring and 40-65 pts. water. The albumen and fat contents of the fat regions are greater, and the water content is lower, than those of the lean regions.

When fried, the prod. crinkles, resembling bacon. The fat regions have a mouth-feel like bacon fat. The lean regions have a meat-like texture although no protein fibres are used. 1.10.74 as 510879 C.i.p. 3840677 (8pp)

DAYL- ★ D13 73553B/40 ★US 4169-162

Soft moist heat treated food for zoo animals - contains proteinaceous material and colloidal clay with antimicrobial agent as preservative

DAYLIN INC 20.04.78-US-898164

C03 (25.09.79) A23k-01/10

Soft-moist heat treated animal food of pH 4-6, comprises 40-65 wt.% moist proteinaceous meaty material, 1-14 wt.% proteinaceous vegetable material, 0.75 - 3.5 wt.% colloidal clay and 40-70 wt.% moisture. It is stabilised microbiologically by combining the clay with an antimicrobial agent.

Partic. useful for zoo animals with the advantage over carcass meat, in that it is more stable and vitamins and minerals can be evenly distributed throughout it. 20.4.78 as 898164 (6pp916)

HILB ★ D13 73554B/40 ★US 4169-164

Coffee bean roasting process - with two separate drying stages using fluidising gases at differing temps. and velocities

HILLS BROS COFFEE INC 23.12.77-US-863724

(25.09.79) A23f-01/02

Continuous dry roasting of green coffee beams is effected by progressively and continuously moving and agitating dry green coffee beans in a fluidised bed successively through first and second separate roasting chambers. In the first chamber the beans are contacted with a dry high velocity gas which fluidises the beans. The gas temp. is 440-470°F. This effects a partial roasting of the beans and expansion of the cellular structure.

In the second chamber the beans are contacted with an independant dry roasting gas stream which fluidises the beans. This gas stream is at a lower velocity and higher temp. than the first stream. This stabilises the open structure of the beans and darkens them without burning them. The temp. is 515-545°F. The beans are finally cooled.

Method produces a high soluble solids yield, low density, roasted coffee prod. 23.12.77 as 863724 (6pp295)

VERI/ ★ D13 73555B/40 ★US 4169-165

Diced hot banana peppers prodn. - by flattening, cutting into dices and screening to remove seeds and pulp

VERI V J 20.04.78-US-898393

(25.09.79) A23l-01/21

Prodn. of diced hot banana peppers comprises removing the stems, flattening the peppers and cutting the resulting flattened peppers. The cutting is first done to produce strips by using rotating circular blades, and then cutting the strips into squares using cross cut knives mounted on a rotating spindle.:

The cross cut knives throw the cut squares upwardly and outwardly against a discharge chute. The impact of the cutting devices loosens the pulp and seeds from the cut squares. The resulting mixture of diced flesh, pulp and seeds are passed into one end of a rotating cylindrical screen which passes the seeds and pulp and retains the diced flesh. Pref. the cylindrical screen has a mesh of $^1/_4$ - $\frac{1}{2}$ inch. The rotating spindle for the cross cut knives pref. rotates at ⩾2,000 rpm.

The method is used to prepare diced peppers which may be preserved by either freezing or pickling. 20.4.78 as 898393 (4pp295)

BEEC- ★ D13 73556B/40 ★US 4169-166

Potato mash prodn. - from unpelled cooked potato pieces transported under pressure along perforated conduit

BEEHIVE MACH INC 03.01.78-US-866242

(25.09.79) A23l-01/21

A potato mash is produced from cooked unpeeled potatoes by feeding the potato pieces continuously into one end of a perforated circuit. The perforations are sized to prevent the passage of potato skin, eyes or hard defective flesh.

The potato pieces and debris are transported along the conduit by a coaxial conveyor screw. Pressure is exerted on the potato pieces as they are transported along the conduit. Mashed flesh is discharged through the conduit perforations while skin, eyes and hard defective flesh is discharged from the opposite end of the conduit. The pressure on the potato pieces is maintained by holding the rate of discharge less than the transportation rate along the conduit.

Method is used to produce a mashed potato product which may be eaten directly or passed over drying rollers to yield a dehydrated product. The resulting mash has a better potato flavour than previous products, and also waste is minimised and thus the process is economical. 3.1.78 as 866242 (3pp295)

DYNL D13 23389A/13 =US 4169-203

Increasing solubility of polymeric dyes contg. amino gps. - by acetylation to give dyes for edible prods.

DYNAPOL 18.11.76-US-743205

*A97 E24 (25.09.79) *BE-860-989 C09b-01/32 C09b-05/24 C09b-31/30 C09b-43*

Water soluble polymeric colourant contains anionic water solubilising sulphonate, carboxylate, sulphamate or phosphonate gps. The colourant comprises a nonchromophoric organic polymer backbone to which are covalently bonded units of organic chromophore and residual prim. or sec. alkyl nitrogens. The number of residual alkyl nitrogens present in acylated form as amides is at least twice the number present as unacylated amines, and the number of water solubilising gps. is at least three times the number of alkylate nitrogens present in amine form. Pref. the water solubilising gps. are sulphonate.

The colourants are used in foods and beverages, etc. Acid pptn. problems are eliminated. 18.11.76 as 743205 (12pp964)

See Also

D11 J5 4109962
D17 SU 639847
D23 US 4169109
D16 J5 4107587
D22 BE 876292
D16 US 4169010
D23 US 4169101

D14: FOODSTUFF MACHINERY

BAMA- ★ D14 71762B/40 ★BE -876-411
Conveyor forming of meat olive, tortilla etc. - by mechanically folding flaps of casing sheet over stuffing then rolling
BAMACH BV 26.05.78-NL-005735
(17.09.79) A23p

Process for forming a meat olive or similar food prod. comprising a stuffing rolled up in an edible covering sheet is claimed. The initially flat sheet is wider at its leading edge. A length of stuffing, shorter than the leading edge, of the sheet, is laid centrally along that edge to leave wings of the sheet extending symmetrically beyond both ends of the stuffing. The wings are folded upwards around the ends and over the top of the stuffing. The leading edge of the sheet is then rolled upwards towards the trailing edge so that the stuffing is rolled up in the sheet.

The sheet can be triangular but is pref. 'T'-shaped, the cross bar of the 'T' forming the leading edge while the trailing edge is approx. equal in length to the stuffing.

Used for mfg. meat olives, tortillas, cannelonis, and similar stuffed roll food prods. Mechanisation of a previously manual series of operations.. Improved control of prod. shape and size facilitates handling and packing.
21.5.79 as 876411 (16pp448)

UNIC D14 49027R/27 =DS 2000-462
Plasticization and anti blocking agent - for regenerated cellulose tubing for
UNION CARBIDE CORP 07.07.69-US-839651 (06.01.69-US-789350)
*A11 (A92) (27.09.79) *BE-744-086 +C08l-01*

A tubular casing of regenerated cellulose contains, as additive to prevent adhesion, 0.1-14 wt.% (based on dry wt. of cellulose) a fatty acid completely esterified by a polyvalent alcohol. The ester is pref. a vegetable fat or oil such as castor oil.

The casing may be made impervious to liquids and gases and used to pack food, e.g. ham, liquids, e.g. oils or to provide casing for sausages. 7.1.70as 000462(5pp68)

BONA/ ★ D14 72230B/40 ★FR 2413-018
Domestic roaster for coffee beans, chestnuts, barley etc. - has power rotated roasting drum in which prod. is held over flame
BONANOMI G 23.12.77-IT-004225
(24.08.79) A23n-09/02

A roasting chamber is removably mounted in a support frame to rotate about a central axis. The frame has a base intended to rest on a fire, gas ring or other source of flame to heat the chamber. The chamber is rotated by a drive shaft turned by an electric power unit which can use battery or mains supply. The distance between the chamber and the flame is pref. adjustable by raising or lowering the trunnion bearings in the frame.

The chamber pref. has wall perforations to exhaust vapours from roasting prod. The chamber pref. comprises two hemispheres hinged at their dias. and held in the closed position by a clip. A lifting handle is a useful addn. 22.12.78 as 038036 (6pp448)

CONS/ ★ D14 72242B/40 ★GB 2016-909
Spit roasting appts. - includes water wheel having system to balance any eccentricity of the meat being roasted
CONSTANCE R J 22.03.78-ZA-001681
P28 (03.10.79) A47j-37/04

A spit roasting appts. includes a water wheel driving a shaft connected to, or integral with, a spit member. The water wheel carries buckets which can be filled from the overflow of the troughs of the wheel in order to counterbalance any mass eccentricity of the meat being roasted.

The overflow to various buckets can be located at different levels in different troughs so that certain troughs have different amounts of water in them. This enables the water wheel to move at different speeds over different parts of its rotation and gives the facility to differentially roast meat or to roast a variety of meats on one spit. 20.2.7°. as 006012 (11pp525)

NIPO- ★ D14 72909B/40 ★J5 4110-084
Gas-filled packaging of foodstuffs - by filling air-impermeable bag with foodstuffs, removing air by inserting into vacuum chamber, introducing ethanol into bags and sealing
NIPPON POLYCELLO KO 15.02.78-JA-016118
A92 Q31 (29.08.79) B65b-31/02

Method comprises (1) preparing air-impermeable bags from polyethylene, polypropylene, cellophane, nylon, poly-ester, PVdC, aluminium foil, or laminate of these materials, (2) filling the bags with the foodstuffs, followed by removing air by inserting the bags into a vacuum chamber (3) introducing ethanol gas (or inert gas contg. ≥ 2% ethanol gas) into the bags, and (4) sealing.

The method is used for packaging of perishable foodstuffs. The replacement of air with ethanol-contg. gas provides excellent microorganism-controlling effects.
15.2.78 as 016118 (5pp173)

MOGI= ★ D14 73262B/40 ★SU -641-251
Sublimation dryer for food products - has cooling elements made as Field pipes with corrugated surface
MOGILEV TECHN INST 05.07.77-SU-503766
Q76 (07.01.79) F26b-05/06

The sublimation dryer can be used for drying food prods. The dryer contains a sublimator and condenser connected to it. The condensers are provided with cooling elements made as Field pipes.

In order to intensify the drying process by simplifying the ice removal from the cooling elements surfaces, the Field pipes are corrugated. A grid is attached to the Field pipes lower ends in each condenser. Electromagnets are placed under the grid. The corrugated cooling element surface and the electro-magnets allow almost instant removal of ice from their surface.
Avdonkin, A.F., Gorbachev, G.N. Bul. 1/5.1.79.
5.7.77. as 503766 (2pp110)

ZEMS/ ★ D14 73315B/40 ★SU -641-955
Feedstuff grass dewatering press - with conical end screw and longitudinally adjustable conical nozzle with adjustable gap rollers
ZEMSKOV I A 11.04.77-SU-477171
(16.01.79) A23n-01

The proposed press. includes a housing holding a driven screw. In order to increase water removal the press has a conical nozzle longitudinally adjustable relative to the housing and having an aperture in the side with variously sized rollers. The drive includes a carrier on which the rollers are mounted with an adjustable gap relative to the nozzle.
Zemskov, I.A., Zemskova, R.N. Bul. 2/15.1.79.
11.4.77. as 477171 (3pp1358)

ODVE= ★ D14 73316B/40 ★SU -641-956
Electro-plasmolyser for fruit juice prodn. - has conical electrodes with facing apexes rotating below supply hopper
ODESS VENDING EQUIP 15.07.77-SU-508646
(16.01.79) A23n-01

Electro-plasmolyser includes a loading hopper and electrodes secured to rotating shafts. In order to improve efficiency by enhancing take-up of material, the electrodes are conical with their apexes facing one another, while their generatrices are parallel at point of closest approach. Pref. the electrodes are mounted to permit adjustment of the gap between them. The material passes from the hopper to be taken up by the constricting electrode gap and then is discharged from, the diverging side of the gap.
Korsunskii, I.R., Vainshtok, Yu.G., Gatin, A.I. Bul. 2/15.1.79. 15.7.77. as 508646 (2pp1358)

KYPO= ★ D14 73329B 40 ★SU -642-002
Continuous-action centrifuge for separating suspensions - has annular recesses for sieves at edge of each groove, used for sepn of food suspensions from plant-cell or fibrous solid phase
KRASY POLY 08 04 77-SU-475331
J01 P41 (17 01 79) B04b-03 B04b 07 16

The centrifuge is described in Parent Patent Cert. No

73525. Now in order to raise productivity and efficiency f separation, there are annular recesses at the edge of ach groove. The sleeves are fixed in these recesses. he walls of the first recess, in direction of motion of he product, are parallel to the sieve. The walls of the econd are inclined to the sieve at less than 90°, but at nore than the angle of the sieve to the vertical. Each ieve has a sector with an angle of inclination equal to hat of the second recess.

lin, M.I., Goloborodko, Yu.I., Yanov, V.G. Bul. /15.1.79. 8.4.77. as 475331 Add to 473525 (2pp18)

AMCA ★ D14 73412B/40 ★US 4168-662

Jet printing ink for foods and food packaging - contg. as solvents, alcohol and hydrocarbon or ketone

AMERICAN CAN CO 28.04.78-US-901215
E24 G02 P75 (25.09.79) B41m-01/40 C09d-11/08

A jet printing ink for foods and food packaging consists of (a) a soluble binder resin, (b) a food dye, (c) a solvent combination of a 1-3C alcohol and an aliphatic 5-12C hydrocarbon or an aliphatic ketone and opt. (d) an electrolyte. The inks dry instantly, or within 20 secs, are abrasion and moisture resistant, and contain only non-toxic materials.

The binder is pref. food grade shellac. The solvent pref. comprises ethanol, water and heptane, hexane, pentane, 2-butanone, 2-heptanone, 2,4-pentandione, and/or 3-heptanone. A suitable electrolyte is Na acetate. Pref. the soln. also contains a small amt. of ammonium hydroxide to keep the pH in the range 7-8.5. 28.4.78 as 901215 (5pp955)

D15: WATER TREATMENT

EGER/ ★ D16 71712B/40 ★BE-875-161

Mono:karyons prodn. from di:karyotic Basidiomycetes strains - by culturing hyphal fragments on glycine contg. soln.

EGER G 29.03.78-DT-813521
(28.09.79) C12k

Prodn. of monocaryons from dicaryotic stains of Basidiomycetes comprises first fragmenting the mycelium in aq. medium to give viable hyphal fragments mostly having one hyphal compartment with a frew having on very small no of dedicaryotisation soln. contg. glycine and ≥1 C source so that they develop into separate mycelial pellets always covered by ≥2 mm depth of liq.

The degree of dedicaryotisation of the pellets is determined microscopically then (c) the pellets fragmented in aq. medium to five fragments contg. one or very few cells. These are (d) placed on a nutrient gelose plate so as to form separate colonies then (e) those colonies found to be monocaryotic are transferred to a fresh medium.

The monocaryons can be repaired with selected partners to give new dicaryotic strains having controlled characteristics e.g. non-sporulating strains of edible mushrooms. Method can be used to identify particular dicaryotic strains. Method is rapid, gives high and reproducible yields of monocaryons without alterations to the genes and does not require expensive equipment or special personnel. 28.3.79 as 875161 (28pp1251)

DHVR- ★ D15 71739B/40 ★BE-876-331

Lowering the phosphate content of effluent water - by adding a reagent forming sparingly soluble phosphate(s) and contacting with a fluidised bed of granular crystallisation promoter

DHV RAADGEVEND INGE 18.05.78-NL-005358
(17.09.79) C02b C02c

In a process for chemically lowering the phosphate content of water, a reagent (I) is added which forms a difficultly-soluble phosphate, and the liq. is then contacted with a granular crystallisation-promoting seed material (II). The (II) is maintained in a fluidized state in the water stream, while addn. of (I) is carried out in such a way that complete heterogeneous nucleation takes place on (II).

The process gives good removal of phosphate, e.g. from effluent waters, by promoting crystallisation of calcium phosphate cpds. The treated water has a low phosphate content and is suitable for biological treatment. The process operates without introducing large amts. of salts into the water. The fluidised bed of (II) presents a large crystallisation surface, so that short contact times can be used, and the size of the appts. can be reduced. Stoppage of the crystallisation bed is avoided. The spent crystallisation material has a low water content (0.5%) and is a useful industrial and agricultural material. 17.5.79 as 876331 (19pp513)

DEUT/ ★ D15 71830B/40 ★BE-876-657

Microporous element promoting fluid flow without pumping - to vent fermentation reaction and to purify industrial effluent liq. or gas

DEUTSCH D H 30.05.78-US-910110
J01 (D16) (17.09.79) B01d C12k

A microporous element comprises several layers of material which is relatively impermeable to fluids, each layer being perforated with tapering passages which connect in series from layer to layer. All the passages in all layers taper in the same direction towards the first face of the element. To pass through the element a fluid must make its way through not less than three and not more than 10,000,000 passages.

The overall thickness of the element is 0.001 μ -100 cm. The average distance across the bigger end of each passage is 0.001-100 μ and the included angle of passage taper is 10-160°.

The average distance across the orifice which interconnects two passages is 0.0002-100 μ. At least 2 and <16 orifices interconnect each passage. The number of a symmetric pores per cm^2 of element face is 10-10^{14}. The element is pref. used to convey gas from one face to the other.

Used to produce a flow of gas or liq. through a conduit in which the microporous element is fitted, e.g. to purify industrial chimney exhaust fumes, to purify polluted industrial effluent, to promote a flow of air through the neck of a sterile flask in which a fermentation reaction is monitored for bacteriological research. The element is cheap, simple to use and promotes fluid flow without power pumping. 30.5.79 as 876657 (21pp448)

LEWI/ ★ D15 71844B/40 ★CA 1062-437

Domestic water sterilisation using disposable assembly - with ultraviolet lamp and enclosing liquid jacket simplifying lamp renewal

LEWIS J H 24.03.76-CA-248630
P34 (18.09.79) A61l-01 A61l-03

A tube which generates ultra-violet radiation is surrounded by a jacket which terminates adjacent its ends while allowing electrical connections to be made to the ends of the tube. Water is introduced into the jacket at one end of the tube and flows between the tube and jacket to an outlet at the other end. Pref. the assembly of the jacket and tube is mounted in a housing which includes a starter circuit for operating the tube. Pref. the radiation is at 2537Å, 1880Å, or is gamma radiation.

Should the lamp fail it can be replaced together with the jacket as an integral unit. This permits lamp renewel without the use of special tools. 24.3.76 as 248630 (22pp295)

ATOC ★ D15 71849B/40 ★CA 1062-590

Decontaminating heavy water reactor coolant systems - by injecting acidic reagent, pref. contg. EDTA and hydroxylamine, and recovering dissolved contaminants on ion exchange resins

ATOMIC ENERGY CANAD LTD 22.01.76-CA-244084

K05 (18.09.79) C09k-13 C11d-07

A nuclear reactor coolant system is decontaminated by injecting an acidic reagent (I) into the circulating coolant to form a dilute soln. which dissolves contaminated deposits, and passing the soln. through a cationic exchange resin to collect cations and radionuclides from it. The regenerated soln. is recycled and eventually passed through an anion exchange resin to remove (I) from the coolant.

(I) is pref. a mixt. of $\geqslant 2$ of sulphuric, oxalic, acetic, thioglycolic and citric acids, EDTA, NTA, hydroxylamine, hydrazine, dithionous acid , sulphurous, sulphenic and phosphoric acids and ethylene diamine. Specifically claimed as novel are (I) consisting of (a) $\geqslant 1$ of sulphuric, sulphamic, dithionous and phosphoric acids and hydroxylamine, (b) $\geqslant 1$ of EDTA and NTA, and (c) 0-50% citric acid.

The method is esp. suitable for decontaminating heavy water coolant/moderator systems in shutdown reactors. The process is fast and continuous and only a small amt. of (I) is required. 22.1.76 as 244084 (25pp909)

ICHW D15 27463Y/16 =DS 2638-541

Continuous thickening and dewatering of slurries - having dewatering screen rolls followed by continuous belt

ICHIKAWA WOOLEN TEX LTD 02.10.75-JA-U34075

*(27.09.79) *DT2638-541 B01d-21 B01d-33*

A plant for continuous thickening and dewatering consists of two revolving screens to thicken the sludge after the addn. of a coagulant, and a flock filter belt around a cylinder to dewater the sludge. The revolving screens are parallel to each other and the mesh size of the first is larger than that of the second drum. The fibres of the flock filter belt, which is wrapped around most of the following cylinder, are inclined opposite to the direction of the belt motion.

Both revolving screens and the cylinder are fitted with scraper blades to strip the sludge and the final sludge cakse. The sludge is dewatered more efficiently; moisture contents of < 75% are achieved when the initial solids content was as low as 0.3-3%. 24.8.76 as 638541(5pp39)

KERJ D15 72990A/41 =DS 2713-991

Harmful oxidisable material oxidn. in aq. solns. - by supplying oxygen and using fuel cell cathode material as catalyst

KERNFORSCHUNGS JULICH 30.03.77-DT-713991

*J01 P35 (27.09.79) *DT2713-991 A62d-03 C25d-21/16*

Water contg. oxidisable, undesirable cpds. is treated with oxygen in the presence of, as catalyst, material which effects the electrochemical reduction of oxygen with electrodes in fuel cells, with the exception of active carbon.

The catalyst is pref. active carbon or ceramic coated with nickel, silver or platinum. Cpds. such as sodium nitrite and cyanide may be oxidised without addn. of further undesirable cpds. such as sodium hypochlorite. 30.3.77 as 713991(4pp68)

SUME D15 14398A/08 =DS 2735-887

Hydrophilic porous fluorocarbon resin structure - with pores contg. insolubilised water soluble polymer used as dialysis, filtration and osmosis membranes

SUMITOMO ELEC IND KK 21.06.77-JA-074069 (10.08.76-JA-095582)

*A88 J01 +P73 (27.09.79) *DT2735-887 C08j-05/22 C08j-09/40 C08l-27/12*

A porous membrane of a fluorocarbon polymer contains in its pores an originally watersoluble polymer which has been made water insoluble, e.g. by crosslinking.

The water soluble polymer is pref. polyvinyl alcohol, polyacrylic acid, polyacrylamide or polyvinyl pyrolidone. The membrane is made hydrophilic by this treatment and may be used as membrane filter, for dialysis, etc. 9.8.77 as 735887(10pp68)

BALD/ D15 42613B/23 =DS 2753-3

Sea water desalination - with fresh water recovery for irrigatio purposes

BALDUS O G 30.11.77-DT-753311

*P13 (27.09.79) *DT2753-311 A01g-25 C02b-01/06*

In a system for the conversion of seawater into fresh
water for the irrigation of agricultural acreas the seawa
is passed through buried pipes with perforations. Ambie
air is enriched with water vapour by a twin tube of plasti
suspended from a balloon over a seawater collecting sum
The hot moist air is passed over the seawater in the pip
and any condensate along the inner pipe walls is conduct
to the agricultural soil.

The result is a utilization of seawater for the profitab
raising of agricultural products. 30.11.77 as 753311(17

SANN D15 48129A/27 =DS 2756-6

Quat. ammonium monomer-based water-in-oil polymer emulsion used as flocculating agents in paper mfr. and for clarifying was water

SANYO CHEM IND LTD 22.12.76-JA-155370

*A91 F09 (A14 A97) (27.09.79) *DT2756-697 C08l-33*

A water-in-oil polymer emulsion contains water, a hyd
-phobic organic liquid and a polymer of (a) 1-100 wt.% o
a monomoer(I) of formula $H_2C{=}CR_1{-}CO{-}A{-}B{-}\overset{+}{N}R_2R_3R_4\ {}^{-}X$
(where R_1 is H or CH_3, each of R_2, R_3 and R_4 are 1-4C
alkyl or 2-4C hydroxyalkyl and in addn. R_4 may be H or
benzyl; A is -O- or =NH and B is 1-4C alkylene or 2-4C
hydroxyalkylene and X is an anion), (b) 0-99 wt.% of
another hydrophilic monomer and (c) 0-30 wt.% of a hyd
-phobic monomer.

The emulsion also contains 8-20 wt.% (based on orga
liquid) of a nonionic surfactant, and has an apparent vis
cosity of 100Cp or less at 30°C.

The emulsion is useful as flocculating agent. Monome
(I) may be 3-(meth)acryloyloxypropyldimethylethylammo
ium methyl sulphate. 20.12.77 as 756697(10pp68)

MUNZ- ★ D15 71912B/40 ★DT 2811-4

Prepn. of water-in-oil dispersions of acrylamide polymers - usi heavy metal salts to control the reaction temp.

MUNZING CHEMIE GMBH 16.03.78-DT-811422

A14 F09 (A35 A60) (27.09.79) C08f-02/24 C08f-20/56

Stable dispersions are made by polymerisation of a wate
in-oil emulsion of an aq. soln. of acrylamide, opt. cont
other water-soluble monomers, in non-polar organic
solvent in presence of a water-in-oil emulsifier and poly
merisation initiator, with addn. of a water- and/or oil-
soluble heavy metal salt as accelerator.

Used as retention agents and de-watering accelerator
in paper-making, as flocculating agents, sedimentation
aids or flotation aids in effluent water treatment. The
accelerators allow polymerisation to be initiated and
carried out at lower temps., so that the exothermic re-
action heat can be controlled by cooling and more unifor
prods. obtd. 16.3.78 as 811422 (12pp195).

FARB ★ D15 71922B/40 ★DT 2811-7

Biochemically reducing (in)organic materials in waste water etc with breathing microorganisms in absence of oxygen but with wa and biological electron donor

BAYER AG 17.03.78-DT-811719

(27.09.79) C02c-01/14 C02c-05/10

Organic materials or organic/inorganic material mixts.
esp. organically contaminated waste water contents, are
reduced biochemically in the absence of free mol. O_2 but
in the presence of microorganisms, (I), capable of breat
ing, opt. in preserved form, or of prepns. thereof, and
of $\geqslant 1$ biological electron donor, (II), in water, at pH 3-
(4-8), 10-80 (20-40)°C for dwelling times of 0.5-50 (2-2
hrs.

Process is used for treating dye-contg. waste waters.
Quantity of (I), calculated as dry solids, is 0.01-50 (0.1
20) g/l reaction vol. whereas quantity of prepns. of (I)
may be 0.001-1000 (0.01-100) g/l reaction vol. Wt.
ratio (II) : (I), calculated as dry solids, is 0.01 : 1 to
1000 : 1 (0.1 : 1 to 100 : 1) and wt. ratio (II) : (I)-contg.
prepns. is 0.01 : 1 to 1000 :1 (0.1 : 1 to 100 : 1). 17.3.
as 811719 (25pp200).

BACH/ ★ D15 72003B/40 ★DT 2812-794

Swimming pool water treatment - controls halogen and ozone addition by redox potential measurement

BACHHOFER B 23.03.78-DT-812794
(27.09.79) C02b-01/38

In a water treatment system for swimming pools the water in circulation receives an admixture of a halogen and is exposed to the action of ozone. During operation, the redox potential of the pool water is measured and the treatment plant is put into circuit automatically at certain intervals. When the redox potential rises to a preset value, it is cut out again.

This guarantees that the water is free from germs but that the treatment plant operates for a minimum of time. The operating costs are thus reduced. The amount of substances with an oxidation capacity is kept low enough not to molest the users of the pool. 23.3.78 as 812794 (14pp39).

MERE ★ D15 72006B/40 ★DT 2812-813

Biological sewage treatment - combines activated sludge with bio:adsorbent fluidised bed

MERCK PAT GMBH 23.03.78-DT-812813
(27.09.79) C02c-01/06

An activation process for use in the biological sewage treatment uses in addition to the activated sludge process a bioadsorbent in a fluidised bed inside the aeration tank. This reduces the concentration of substances of poor digestibility and eliminates the toxic effect on fish. The sludge properties are improved and/or the sewage can be bleached.

Specifically a first pipe is used for the sewage inflow and the sludge recycling. A second leads to the reclarification basin. The bioadsorbent (e.g. granulated activated carbon) in the fluidised bed is kept sepd. by two screen decks. 23.3.78 as 812813 (7pp39).

VEBB ★ D15 72042B/40 ★DT 2905-117

Electrochemical machining of metals - in appts. which is also used for inexpensive detoxication of neutral or basic electrolytes or their waste solns.

VEB BERGMAN BORSIG 12.09.78-DL-207757 (20.03.78-DL-204271)
M11 P35 (27.09.79) A62d-03 C25f-07/02

After the machining, the electrolyte or soln. contains heavy metal ions, esp. Cr(VI); the machined workpiece is removed, and Fe(II) ions are generated in the machining appts. for redn. of ions in the electrolyte.

The pref. reducing agents are $Fe(OH)_2$ and Fe_3O_4 obtd. by electrochemical dissoln. of an unalloyed steel electrode used instead of the workpiece in a soln. of alkali chlorides and/or -nitrates; during redn., a protective gas, esp. CO_2, N_2 or Ar, is pref. used to reduce the effect of O_2 in the ambient air on the Fe(II) ions. The consumable steel electrode may be a workpiece with a higher iron content than a high alloy workpiece previously machined in the electrolyte.

A substantial saving in detoxication costs can be achieved. 10.2.79 as 905117 (16pp1144).

PERM- ★ D15 72055B/40 ★DT 2909-593

Electrode for aq. metal halide soln. electrolysis - has oxidic coating contg. iridium, with titanium, tantalum and/or niobium and tin and/or cobalt (NL 26.9.79)

PERMELEC ELECTRODE 24.03.78-JA-033008
E36 J03 M13 (27.09.79) C02b-01/82 C25b-01/34 C25b-11/08

Electrode for use in the electrolysis of aq. metal halide solns. has an electrically conductive substrate with a coating of 5-75 (mole)% Ir oxide, 5-70% Ti, Ta and/or Nb oxide(s) and 20-70% Sn and/or Co oxide(s), the total amt. of Ir, Ti, Ta and Nb oxides being ≥ 30%.

The electrode is esp. useful in the low temp. electrolysis of dil. salt solns., e.g. sea water and alkali(ne earth) chloride, bromide and iodide solns., to prevent marine organisms sticking to ships, for the treatment of swimming pool water, drinking water and sewage and for sterilisation and bleaching purposes. It has good corrosion resistance. 12.3.79 as 909593 (20pp016).

ASAH- ★ D15 72092B/40 ★DT 2911-113

Aq. salt soln. disposal - with water sprays in combustion chamber and in gas-liquid separator tank

ASAHI ENG KK 23.03.78-JA-032303 (23.03.78-JA-032302)
F09 J04 + Q73 (27.09.79) B01d-09/02 F23g-07

A waste product, e.g. from the cellulose industry, containing a salt which has explosive properties when submersed in water in the fused state, is treated by spraying its aq. solution downward into a vertical combustion chamber. The fused salt drops on an inclined (5°-60°) guide plate in a horizontal tank. Water sprays keep the salt cool and immersed as it moves along to a perforated plate leading to the discharge openings.

This ensures a cool enough temp. to avoid any risk of an explosion. The salt is recovered in the form of an aq. soln. 21.3.79 as 911113 (38pp39).

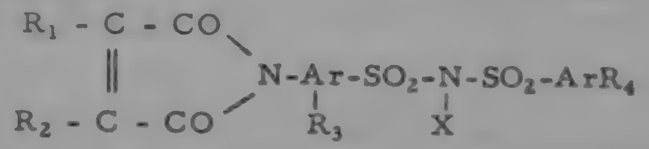
FARB D15 68262B/38 =EP ---4-287

Semipermeable membranes based on acrylonitrile copolymer - with maleimido:aryl aryl di:sulphimide; has high water permeability

BAYER AG 07.03.78-DT-809713 (07.03.78-DT-809696)
*A88 J01 (A14) (03.10.79) *DT2809-713 B01d-13/04 +C07d-207/44 C08f-220/48*

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Semipermeable membranes are based on copolymers from (I) 50-99 wt.% acrylonitrile, (II) 1-50% of ≥1 monomer of formula



(in which Ar is a benzene or naphthalene gp.; R_1 and R_2 are H, CH_3, F or Cl; R_3 and R_4 are H, phenyl, 1-6C (hydroxy)alkyl, Cl or F; X is H, Na, K or NH_4) and (III) 0-30 (0-15)% copolymerisable monomer(s).

The membranes are used for reverse osmosis and ultrafiltration.

They have better chemical and hydrolysis resistance than cellulose acetate membranes, with reduced susceptibility to degradation by microorganisms. They have high water permeability and low separating limit of mol. wt. around 500.

23.2.79. as 100530 (24pp195).
(G) ISR: FR2132351; US2686774; DT1545834.

FARB D15 71922B/40 =EP ---4-304

Biochemically reducing (in)organic materials in waste water etc. - with breathing microorganisms in absence of oxygen but with water and biological electron donor

BAYER AG 17.03.78-DT-811719
*(03.10.79) *DT2811-719 +C02c-01/14*

D/S: E(BE, DT, FR, GB, IT, NL).

Organic materials or organic/inorganic material mixts., esp. organically contaminated waste water, are reduced biochemically in the absence of free mol. O_2 but in the presence of microorganisms (I) capable of breathing, opt. in preserved form, or of prepns. thereof, and of one or more biological electron donors (II) in water, at pH 3-11 (pref. 4-8) and 10-80 (pref. 20-40)° C for dwell times of 0.5-50 (pref. 2-20) hrs.

The process is esp. used for treating dye-contg. waste waters.

5.3.79 as 100634 (26pp200).
(G) ISR: FR2205484; FR2226364; FR129904; US2875151; DT2235977; GB1277632; US3963576.

STAM ★ D15 72146B/40 ★EP ---4-397

Melamine removal from waste water - by anaerobic biodegradation, using e.g. microorganisms present in the form of activated sludge

STAMICARBON BV 22.03.78-NL-003073
A41 E13 (03.10.79) C02c-01/14 C02c-05/10

D/S: E(BE, DT, FR, GB, IT, NL, SW).

Melamine is removed from aq. solns. or suspensions contg. it by bringing the soln. or suspension under anaerobic conditions into contact with one or more species of microorganisms or enzyme preparations having melaminase activity.

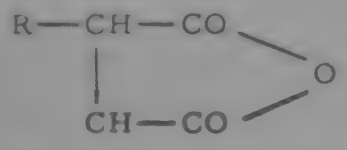
Pref. the total concn. of nitrite and nitrate ions in the melamine-contg. mixt. is $<$ 10ppm. Pref. the medium providing the melaminase activity is a micro-organism-contg. activated sludge, and the melamine-contg. mixt. is brought into contact with the activated sludge in an upward flow reactor.

The process is esp. for treating waste water originating from a melamine-producing or -processing plant. Urea and other cpds. resembling melamine e.g. ammeline or ammelide, may also be biodegraded under the same conditions. Ammonia resulting from the biodegradation can be recovered e.g. by steam absorption.

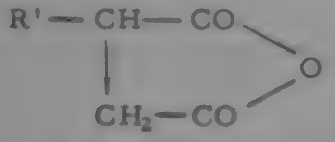
7.3.79 as 200115 (22pp914).
(E) ISR: FR2302279; US3756947; FR1094654;
2 Journal References.

ICIL ★ D15 72160B/40 ★EP ---4-426
Surfactant compsn. for emulsifying oils in aq. media - comprises mixt. of high and low mol. wt. polyester(s) derived from alkyl or alkenyl succinic anhydride and poly:alkylene glycol
IMPERIAL CHEM INDS LTD 23.03.78-GB-011679
A25 H03 (A97 H08) (03.10.79) B01f-17/44 C08l-07 C10m-01/06
D/S: E(BE, DT, FR, GB, IT, LU, NL, SW).

Surfactant compsn. comprises (A) 5-95 wt. % of a polyester obtd. by condensing (a) an alk(en)yl succinic anhydride (I) of formula



(where R is (un)satd. hydrocarbyl derived from a polymer of a mono-olefin, the polymer chain contg. 40-500 C) and (b) a polyalkylene glycol of mol. wt. 400-20,000 which is $\geqslant$ 5 wt. % water-soluble at 25°C, the polyester so obtd. contg. 10-80, pref. 20-60 wt. % of residues of (b); and (B) 95-5 wt. % of a polyester obtd. by the condensation of (a) an alk(en)yl succinic anhydride (II) of formula



(where R' is 8-18 C alk(en)yl) and (b) a polyalkylene glycol of mol. wt. 200-4,000 which is $\geqslant$ 5 wt. % water-sol. at 25°C, the polyester so obtd. contg. 10-80 (pref. 20-60) wt.% of residues of (b).

The compsn. is useful as a surfactant in the emulsification of oils in aq. media (e.g. sea-water). Thus it can be used for treating oil slicks, or as an additive for cutting oils or fluids for hydraulic transmission.

The compsn. enables O/W emulsions to be produced under low energy conditions and at the same time confers a high degree of stability on the emulsions obtd. The combination of the two types of surfactant gives, at the same total concn. of surfactant, a lower oil-water interfacial tension than is given by either surfactant alone. 8.3.79 as 300355 (23pp914).
(E) ISR: None given.

SEYF/ D15 07619Y/05 =GB 1553-620
Removing manganese from underground water by oxygen treatment - first removing iron then adding manganese cpd. to ppte. manganese salts
SEYFRIED C F 23.09.75-DT-542333
*+Q42 (03.10.79) *BE-846-420 C02b-01/23*

Water is recovered from an aquifer in which the water is contaminated with dissolved oxidisable mineral impurities comprising dissolved Fe cpds. and cpds. of other metals. The water has a purity appropriate for domestic or industrial use.

Method comprises (a) sinking a main well from ground level into the aquifer; (b) sinking a first satellite well into the aquifer upstream from the main well w.r.t. the water flow direction-through the aquifer; (c) introducing into the aquifer (an)oxygen (releasing substance) through the first satellite well to ppte Fe as Fe_2O_3 in a first zone.

Method further comprises (d) introducing through the first satellite well or through another well between the first satellite well and the main well, a cpd. of a metal other than Fe to produce a second zone downstream of the first zone, where that metal pptes.; and (e) withdrawing water from the main well. 22.9.76. as 039296 (6pp997).

HART/ D15 42032A/23 #GB 1553-758
Skimmer for removing oil from water surface - with skim depth automatically controlled by rate of removal of fluid
HARTWICK N J R 04.02.76-CA-245035 (13.08.77-GB-034062)
*J01 +Q42 (03.10.79) *US4085-049 +E02b-15/04*

Oil can be removed from water using a device which includes a pair of floats between which a shaft extends, and an open topped reservoir with a front weir edge mounted freely on the shaft with its longitudinal axis being rearward of the shaft relative to the weir. In use flotation of the reservoir lowers the weir edge to collect oil in the reservoir, and the depth of the weir edge below the surface and hence the depth of skin is controlled by controlling the amt. of oil in the reservoir.

A further float is pref. provided and which is connected to the reservoir by a suction conduit to receive oil from the reservoir.

The depth of skin is controlled using a simple device. 13.8.77. as 034062 (9pp1376)

BRTO ★ D15 72249B/40 ★GB 2016-947
Liquid degassing appts. e.g. for sewage - has skirt leading into siphon falling leg from closure and extraction line through closure
BOC LTD 13.03.79-GB-008887 (15.02.78-GB-006028)
J01 (03.10.79) B01d-19

Appts. for degassing liquid, partic. sewage before oxygenation, comprises a siphon with a rising and a falling leg, and a skirt depending into the siphon from an upper closure. The skirt is immediately opposite the rising leg upper part, and a gas extraction pump communicates with the siphon via a tube through the closure outside the skirt.

The rising leg is pref. coaxially within the falling leg for at least the upper part of its length, and the tube can be heated. The closure pref. has a sharp piercing member directed downwardly into the siphon. The arrangement minimises oxygen wastage. 13.3.79. as 008887 (3pp1358)

COUL/ ★ D15 72267B/40 ★GB 2017-075
Biological filter substrate - comprising elongated plastics strip suspended in a stream to be treated
COULTHARD J L 28.03.78-AU-003787
A97 (03.10.79) C02c-01/02

A substrate for a biological filter comprises a plurality of plastics strips secured at one end and free to randomly move in a stream of material to be treated. The strips may be of PVC or polyurethane and may be flat surfaced or embossed, ridged or apertured to increase the area on which aerobic or anaerobic organisms can grow.

In one embodiment, the strips are secured at their lower ends and the stream is passed upwardly. In another embodiment, the strips are suspended from their upper ends with weights on their lower ends and the stream is passed downwardly.

The waving action of the strips prevents clogging of the filter because it aids removal of dead organisms. The filter is of use in treating sewage or the like. 21.3.79. as 009885 (8pp525)

TOYO/ ★ D15 72404B/40 ★J5 4107-152
Removing mercury and cadmium ions from waste liquor - by adjusting pH to cause coagulation and adding sodium sulphide to cause pptn.
TOYODA O 08.02.78-JA-014405
E32 (22.08.79) C02c-05/02

Heavy metal ions including Hg^{2+} and Cd^{2+} etc. are completely removed from heavy metals-contg. waste liquor by a combination of coagulation process and Na_2S-precipitation process. Method comprises acid or alkali to adjust pH to about 8 and form by coagulation heavy metal hydroxides, and adding Na_2S to precipitate portion of metal ion(s) which are not coagulated, in the form of corresp. sulphide(s).

The heavy metal ion(s) if necessary are reduced with sul

-phurous acid resulting from air oxidn. of Na_2S, followed by coagulation precipitation in the form of correspg. hydroxide(s). A coagulant, e.g. $FeSO_4$ and Al sulphate is added to ppte by coagulation the fine sulphide particles.
8. 2. 78 as 014405 (2pp34)

KOBM ★ D15 72405B/40 ★ J5 4107-153

Water treatment by BOD removal, nitrification and denitrification - in single vessel contg. solid particles coated with microorganisms and supplied with oxygen in upper part

KOBE STEEL KK 10.02.78-JA-014658
(22.08.79) C02c-01/02

Polluted water contg. ammoniacal nitrogen, organic nitrogen cpds. and other organic matter etc. is effectively and economically purified in a simple vessel contg. solid particles, having microorganism layers formed on their surface. The water to be treated is fed into a long tubular treating vessel contg. the solid particles from the bottom of the vessel, and the solid particles and the water are mixed while introducing an oxygen-contg. gas into only the upper part of the vessel, so that the upper part of the vessel is maintained under aerobic state and the under part of the vessel is maintained under anaerobic state so as to remove BOD components and nitrogen components contained in the water by the action of aerobic and anaerobic biological layers grown on the surfaces of the solid particles in the aerobic and anaerobic regions, respectively. The treated water is sepd. from the solid particles, and some or all the water thus sepd. is recirculated to the bottom of the vessel so as to form a circulating system.
10. 2. 78 as 014658 (5pp34)

MITR ★ D15 72563B/40 ★ J5 4107-888

Inorganic anion exchanger prodn. for phosphoric ions etc. - from mixt. of hydrous titanium, zirconium and/or thorium oxide, inorganic acid and alumina sol or gel

MITSUBISHI RAYON KK 13.02.78-JA-015205
J01 (24.08.79) B01j-01/04 C02c-05/08

The method comprises kneading 30-98 wt. pts. of $\geqslant 1$ hydrous oxide of Ti, Zr, or Th, 70-2 wt. pts. of alumina sol or alumina gel, and 0.1-10 wt. pts. or inorganic acid in the presence of 20-500 wt. pts. of water to 100 wt. pts. of the hydrous oxide and the alumina, pelletising the resulting mixt., and drying to produce the inorganic anion exchanger. The inorganic acid is hydrochloric, sulphuric, or nitric.

In an example, 90 wt. pts. of $TiO_2.H_2O$, 56.7 wt. pts. of alumina gel, and 1.0 wt. pts. of sulphuric acid were kneaded in the presence of 30 wt. pts. of ion exchanged water. The resulting kneaded substance was shaped to pellets, and dried to obtain an inorganic anion exchanger.

The anion exchanger is used for arsenic, chromic, phosphoric, tungstic, vanadic and molybdic ions.
13. 2. 78 as 015205 (6pp51)

NAKA/ ★ D15 72583B/40 ★ J5 4107-923

Preventing elution of heavy metal ions from solidified mixt. - by solidification with cement and an aq. soln. of polyvinyl-acetal

NAKANISHI M 13.02.78-JA-015247
A91 J04 L02 (24.08.79) C04b-31

Elution of heavy metal ions from the solidified body of a cement and heavy metals sludge, is prevented by the solidification of the mixt. of the heavy metals sludge and an aq. soln. polyvinylacetal with cement.

Infiltration of water into the solidified body is restrained, at the same time, elution of heavy metals ion from the body is prevented when the body is immersed in fresh water or sea water having a pH of 6-8.

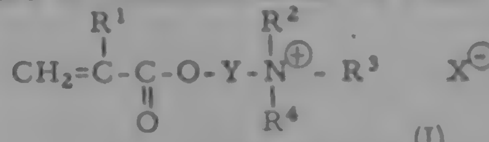
Polyvinylalcohol (0.8 kg) is reacted with 9 kg of aq. soln. (10%) of formalin in the presence of an acid catalyst at a temp. of 60-80°C for 30 min., and neutralised. Then it is mixed and kneaded with 10 kg of hydroxide sludge, sulphide sludge or ferrite sludge of Cr, Pb, Cd, Cu, Ni, Co, Zn, Hg, etc. then mixed with 30 kg of cement and sand (in the ratio 1:1) with the addn. of proper amt. of water. 13. 2. 78 as 015247 (3pp170)

MITU ★ D15 72641B/40 ★ J5 4107-992

Dehydration of cationic water-soluble polymer - by azeotropic distn., in presence of cellulose ester or ether which is insol. in water and soluble in the medium

MITSUBISHI CHEM IND KK 14.02.78-JA-015759
A91 (A11 A97) (24.08.79) C02c-03 C08f-06/06 C08f-20/34

Cationic water-soluble polymer of formula (I) is dehydrated by azeotropic distn. of a medium, in which the polymer is suspended, in the presence of cellulose ester or ether which is insol. in water and soluble in the medium. The use of cellulose ester or ether is new.



$$CH_2=\overset{\overset{\displaystyle R^1}{|}}{C}-\underset{\underset{\displaystyle O}{\|}}{C}-O-Y-\overset{\overset{\displaystyle R^2}{|}}{\underset{\underset{\displaystyle R^4}{|}}{N^{\oplus}}}-R^3 \quad X^{\ominus}$$

(I)

In (I), R^1 is H or methyl; R^2 and R^3 are 1-4C opt. branched alkyl; R^4 is H, 1-8C opt. branched alkyl, 1-4C hydroxyl-substd. alkyl, or benzyl; Y is 2-4C alkylene or hydroxyl-substd. alkylene; and $X^{\ominus}$ is an anion.

Cationic water-soluble polymer such as one which is prepd. by polymerisation of water-soluble monomer contg. neutralised salt of dialkylaminoalkyl (meth)acrylate is important as a coagulant for sewage disposal. The polymer immediately after polymerisation contains $>$ 50 wt. % water and should be dehydrated if it is to be made granular solid. This dehydration is effectively accomplished by using cellulose ester or ether. 14. 2. 78 as 015759(9pp128)

TOKE ★ D15 72686B/40 ★ J5 4108-457

Decolouration of water obtd. from night soil treatment - with activated sludge, by ozone-oxidn., suppressing formation of nitrous ions

TOKYO SHIBAURA ELEC LTD 13.02.78-JA-014156
(25.08.79) C02c-01/06 C02c-05/04

In decoloration of treated water obtd. by activated sludge treatment or by adding coagulant to the activated sludge-treated water for removal of suspended solids by means of ozone or ozonised gas, the dissolved oxygen of the activated sludge aeration tank is detected, and according to the detected value, the amt. of air for aeration or the amt. of return sludge is regulated to suppress the formation of nitrous ion and then ozone-oxidation is made.

Specifically the check point for obtaining treated water contg. lesser amts. of nitrous acid ion is the suppression of dissolved oxygen to 2.0 ppm, pref. ~ 1.0 ppm, by introducing air into aeration tank or returning sludge to the tank. 13. 2. 78 as 014156 (3pp117)

TOKE ★ D15 72687B/40 ★ J5 4108-458

Decolouring and purifying activated sludge treated human waste - with ozone using an aerating tank where excess formation of nitrous acid is detected and biologically suppressed

TOKYO SHIBAURA ELEC LTD 13.02.78-JA-014158
(25.08.79) C02c-01/06 C02c-05/04

The activated sludge-treated water, opt. deprived of its suspended solids, is obtd. by adding a coagulant to the treated water. The water is then introduced into a detention tank and slowly agitated so as not to sediment sludge or kill BOD-removing bacteria.

The water is then reaerated, introduced into a sedimentation tank for removal of sludge, and treated with ozone.
13. 2. 78 as 014158 (4pp117)

KANK- ★ D15 72688B/40 ★ J5 4108-459

Treatment of soln. leached for waste reclamation site - by oxidn. with hydrogen peroxide in presence of iron salt catalyst and regulating pH to remove peroxide and iron ions

KANKYO ENG KK 13.02.78-JA-015077
(25.08.79) C02c-05/04

In treating the leached soln. from waste-reclamation sites, oxidisable substances in the leached soln. are decomposed by H_2O_2 in the presence of an iron salt catalyst. The treated water obtd. from the oxidn. treatment has its pH regulated to 3-6, or in case where excess Fe (II) ion is present or Fe(II) ion is added to remove unreacted H_2O_2, is aerated at a pH of $\geqslant 2$ to convert Fe (II) ion to Fe(III) ppte and then has its pH regulated to 3-6 to remove suspended substances, organics, and colourants, together with iron hydroxide.

Method treats the waste simply at lower running cost. The method is applicable to anaerobic waste reclamation leached solns. semi-aerobic waste reclamation leached solns. and aerobic waste reclamation leached solns. 13. 2. 78 as 015077 (6pp117)

MORI/ ★ D15 72689B/40 ★ J5 4108-460
Chromium plating waste water treatment - by acidifying, adding waste photography developing or fixing soln., neutralising and filtering
MORI M 13.02.78-JA-015078
E31 G06 M11 (25.08.79) C02c-05/02 C25d-03/04

The method uses a developing soln. for photography. Chrome plating waste water is first regulated to pH < 3 by the addn. of an acid, e.g., H_2SO_4, etc., and then treated with a waste developing soln, a mixt. of waste developing soln. and waste fixing soln. for photography, opt. water-diluted, contg. sodium sulphite, sodium metabisulphate, acid sodium sulphite, menthol, hydroquinone, sodium carbonate, etc., at 10-60°C for 20-250 sec. in order to reduce hexavalent chromium ion to trivalent chromium ion; and neutralising to pH $\geqslant$ 7.0 to ppte. flocs which are in turn sepd. by filtration, etc.

The method can effectively treat chrome plating waste water simply and at lower cost, giving highly purified treated water and the hydroxide of trivalent chromium, which is usable as a tanning agent. 13. 2. 78 as 015078 (3pp117)

MITJ ★ D15 72690B/40 ★ J5 4108-461
Denitrification of waste water with high nitrogen content - by contact with oxygen and activated sludge in pressure vessel which causes forced circulating flow
MITSUI MIIKE MACH KK 15.02.78-JA-015331
(25.08.79) C02c-01/17

Waste water contg. large amt. of nitrogenous cpd., e.g. sewage, industrial effluents, etc., is contacted with O_2 and concd. activated sludge a pressure vessel provided with an inner cylinder with an axial flow impeller by which forced circulating flow is caused. The sludge present in the waste water thus treated is sepd. and concn. by a pressure floating method.

The waste water deprived of its floated sludge is contacted with concd. anaerobic sludge in the absence of oxygen in an ordinary pressure vessel provided with an inner cylinder with an axial flow impeller by which forced circulating flow is caused. The sludge present in waste water is sepd. and concd. by a pressure floating method.

This method is capable of treating nitrogenous cpds.-rich waste water with higher denitrification rate without causing bulking by using compact treatment facilities. 15. 2. 78 as 015331 (5pp117)

TORA ★ D15 72691B/40 ★ J5 4108-462
Treatment of waste water having high COD - by regulating ph to more than 12 and treating with oxygen-contg. gas in presence of catalyst contg. copper cpd.
TORAY IND INC 14.02.78-JA-015788
(25.08.79) C02c-05/04

The waste water is first regulated to pH > 12 and then treated with an oxygen-O_2-contg. gas in the presence of a catalyst composed of an alkali hydroxide soln. of a Cu cpd. e.g. $CuSO_4$, $Cu(NO_3)_2$, $CuCl_2$, $CuCO_3$, Cu acetate, $Cu(OH)_2$ etc. > 100°C and under a pressure high enough to keep part of water in a liq. phase.

The waste water thus treated is subjected to a vapour-liquid sepn. and the sepd. treated water is neutralised to form sediment of $Cu(OH)_2$ which is in turn recovered for reuse as catalyst.

The waste water contains large amts. of oxidisable substances which are easily convertable into free acids upon oxidn. e.g., organic cpds. or polymer contg. S, inorganic cpds., e.g., thiosulphates, sulphides, etc., organic cpds. or polymers contg. Cl.

This method is capable of effectively treating waste water contg. high concentrations of COD components without causing the erosion of treatment facilities. 14. 2. 78 as 015788 (4pp117)

MITR ★ D15 72692B/40 ★ J5 4108-4
Removal of harmful inorganic materials from water - by pass water through granular inorganic anion exchanger to remo arsenic ions etc., then regenerating the exchanger
MITSUBISHI RAYON KK 14.02.78-JA-016086
(25.08.79) B01d-15/04 C02c-05/08

Removal of harmful substances, e.g. arsenic, etc., par ic., from ground water, spring water, etc., is describ in which the water is contacted with a granular inorgani anion exchanger, prepd. by mixing and extruding a mixt. of $\geqslant$ 1 of the hydroxides of Ti, Zr, and Th, alumina sol. alumina gel, packed in a column, then a 0.1-40% basic substance soln. of NaOH, KOH, NH_3, Na_2CO_3, etc., is passed through the inorganic harmful substances, adsor ed granular inorganic anion exchanger for regeneration the anion exchanger and also the desorption of the harmf substances. An inorganic acid or its aq. soln is passed through the regenerated anion exchanger for the neutrali ation of residual basic substances present.

The method is capable of effectively removing harmfu inorganic substances, partic. arsenic acid ion, arseniou acid ion, etc. from water contg. chlorine ion, bromine ion, etc., selectively and with high efficiency over a long period at lower cost. 14. 2. 78 as 016086 (5pp117)

EBAI ★ D15 72824B/40 ★ J5 4109-24
Organic sludge, e.g. sewage, treatment - by making it alkaline an applying ionising radiation in presence of oxygen
EBARA INFILCO KK 16.02.78-JA-015867
K08 (27.08.79) C02c-03

Organic sludge is treated by making it alkaline (pref. to pH 9-14), and applying ionising radiations (e.g. γ-ray from a radioactive isotope or electron rays from an elect ron accelerator) to it in the presence of oxygen.

Insoluble organic substances such as bacteria, protozo polysaccharides, etc. contained in the organic sludge can be effectively solubilised. The solubilised liq. can be easily treated by a common biological treating process, or can be effectively reutilised as a hydrogen donor, in place of carbon cpds. such as methanol, in the denitrification of organic sewage. The solid matter remaining after the solubilisation exhibits improved dehydrability.

The alkali used for controlling the pH to 9-14 is pref. an inorganic alkali such as calcium hydroxide, sodium hydroxide, etc. The organic sludge is e.g. excess activated sludge formed in the biological treatment of city sewage or waste water from a food factory. 16. 2. 78 as 01586 (3pp50)

EBAI ★ D15 72825B/40 ★ J5 4109-245
Nitrogen contg. organic waste water treatment - includes applying ionising radiation to any excess sludge formed,and returning it to denitrification process
EBARA INFILCO KK 16.02.78-JA-015868
K08 (27.08.79) C02c-01/02 C02c-03

Nitrogen-contg. organic waste water is treated by applying ionising radiation to any excess sludge formed, and then returning it to a denitrifying process. The organic waste water contg. nitrogen cpds. and BOD substances is denitrified biologically.

Excess sludge formed in the biological denitrification treatment of nitrogen-contg. organic waste water, can be effectively utilised as a hydrogen donor, and denitrification can be very effectively achieved without using carbon cpds. such as methanol as hydrogen donors at all.

Ionising radiation is pref. γ-rays from radioactive isotopes or electron rays from the electron accdlerator. The solubilisation of organic substances in excess sludge by the application of ionising radiation can be further effectively accelerated by blowing oxygen into the sludge, making the sludge alkalinity > pH 8.0, or making the temp. of the sludge 50-100°C. 16. 2. 78 as 015868 (3pp50)

HITB ★ D15 72826B/40 ★ J5 4109-246
Water purificn. - comprises removing hexa methylene tetramine and phenol by adsorption using strong acidic cation exchange resin and activated carbon
HITACHI CHEMICAL KK 15.02.78-JA-016230
A91 E16 (E14) (27.08.79) C02c-05/08

Water is cleaned by removing hexamethylenetetramine and enol by adsorbing using a strong acidic cation-exchange esin and activated carbon.

By treating waste water contg. hexamethylenetetraam-e and phenol with both strong acidic cation-exchange esin and activated carbon, hexamethylenetetramine(hex-mine) and phenol can be effectively removed. Esp. when e exhaust water is treated with activated carbon and then ith a strong acidic cation-exchange resin, distinct remov ing effects can be obtd.

By using simultaneously activated carbon which can ad-orb phenol but does not adsorb hexamine, and strong cidic cation-exchange resin which can adsorb hexamine ut does not adsorb phenol, synergism can be obtd. The dsorbing treatment is carried out using a fixed bed of the dsorbing agents, a fluidised bed, etc. 15. 2. 78 as 016230 (5pp50)

IEJ ★ D15 72827B/40 ★J5 4109-247

leaning organic waste water, e.g. from fermentation - by adding norganic acid, sepg. ppte. formed, adding slaked lime and sepg. pte. formed

HITACHI PLANT ENG CONST 16.02.78-JA-016925

(27.08.79) C02c-05/02

Method comprises adding mineral acid (pref. sulphuric acid) to fermented waste water contg. colouring organic substances to adjust its pH to 1-4, pref. 1.5-2.5, sepg. off ppte formed, adding slaked lime to the liq. to adjust pH to 10-13, pref. 11.5-12.5, and sepg. off ppte formed. A high polymer coagulant is pref. added to the treated liqs. for accelerating pptn.

In an example, the decolorising rate attained was 39.4% in contrast to 7.30% by a previous method using ferric chloride and slaked lime for the cleaning treatment.

Deeply coloured components such as antibiotic culture in fermented waste water can be effectively sepd.. COD components in the fermented waste water can be effectively removed by the treatment. 16. 2. 78 as 016925 (3pp50)

HIEJ ★ D15 72828B/40 ★J5 4109-248

Decolourising deodorised waste water - by adding slaked lime to adjust pH, removing ppte. formed, again adding slaked, lime and removing ppte. formed

HITACHI PLANT ENG CONST 16.02.78-JA-016926

(27.08.79) C02c-05/02

Method comprises (a) adding slaked lime to deeply coloured waste water from a deodorised plant for decomposing and removing odoriferous gases ($\geqslant 1$ of formaldehyde, methanol, ammonia, etc.) to adjust its pH to 5.5-8.5, pref. 6.5-7.5, (b) removing the precipitate formed, (c) adding slaked lime to the clarified water to adjust its pH to 8.5-12, pref. 9.5-11, and (d) removing the ppte. formed. Pref. a high polymer coagulant is pref. added to the liq. treated with slaked lime for accelerating the pptn.

The water obtd. has the colour standard for drinking water.

In an example, a deodorised waste water of 1200° chromaticity is treated by the a method, to give a treated water of 5° chromaticity. The chromaticity of treated water obtd. by a previous method using the addn. of sodium hydroxide is 220°. 16. 2. 78 as 016926 (2pp50)

KURK D15 17440Y/10 =J7 9027-069

Removing dissolved or colloidal silica and silicate from water - by contacting with zirconium oxide hydrate and/or activated alumina

KURITA WATER IND KK 15.07.75-JA-086343

*E36 (07.09.79) *J52011-641 C02b-01/24*

The zirconium oxide hydrate(s) and the activated alumina are used in granular form of granular size 12 to 40 mesh.

In an example, water having SiO_2 concn. 40 ppm and pH 7.5 to 8.0 is passed downwardly through a column having a height of 20 cm, packed with 87.2 grams of granular zirconium oxide hydrate(s) at a rate of 430 ml/hr. The silica-removing rate was 95.5%, the pH of the treated water was 7, 6, and the dissolved ion amt. was <0.1 ppm. 15. 7. 75 as 086343 C02b-1/24 (7. 9. 79) KURITA WATER IND KK (2pp34)(J52011641)

AGEN D15 32568Y/18 =J7 9027-070

Treating waste water contg. organic impurities - with an adsorbent obtd. by drying the coprecipitate from aq. solns. of aluminium and calcium, magnesium and/or iron

AGENCY OF IND SCI TECH 31.05.74-JA-061633

*(07.09.79) *US4019-982 B01d-15 C02b-01/14 C02c-05/02*

Coloured, soluble organic pollutants are removed from waste water by mixing the latter with a solid made by mixing an aq. Al soln. with an aq. soln. of Ca or Mg, and adjusting the solns. to pH >8 to coppte. a gel which is sepd.. and dried. The ratio of the reactants is such that the Al content of the gel (as Al_2O_3) is 30-60 wt.% and the Ca content (as CaO) is 10-25 wt.%or, when Mg is used, the Al content is 15-30 wt.% and the Mg content 20-40 wt.%.

The method is used to treat pulping waste water, water contg. natural humic substances and dyhouse waste water. The dried gel has high adsorption capacity and, due to its high sedimentation velocity and low water adherence characteristics, is readily disposed of after use. It may also be readily dehydrated. 31. 5. 74 as 061633 C02c-5/02. B01d-15/00, C02b-1/14 (7. 9. 79) AGENCY OF IND SCI TECH (FUJC) (7pp922)(J50153456)

SUMO D15 72717W/44 =J7 9027-314

Reducing nitrogen oxides in waste gases - by reaction with ammonia from waste waters after organic cpd. decompsn.

SUMITOMO CHEMICAL KK 11.04.74-JA-041219 (00.00.78-JA-081253)

*E35 J01 (E36) (08.09.79) *DT2459-615 B01d-53/34 C01b-02/30 C02c-05/04*

Waste waters contg. ammonia-N and organic cpds. and waste gases contg. N oxides are treated simultaneously. The NH_4-N cpds. and the organic cpds are stripped, in gas-form, from the waste water. The organic cpds. aredecomposed in the presence of a decompsn. catalyst (I), at 120-400°C. The gaseous decompsn. products obtd. are mixed with the waste gases up to an NH_3 content of 0.3-10 (0.7-5) mol/mol N oxides and the N oxides are reduced by contacting the gas mixt. obtd. with a reducing catalyst (II), at 150-700°C, NH_3, which is not converted in catalytic decompsn. is catalytically and oxidatively decomposed in a further process-step, and converted to free N_2 and steam.

Method is used for treating effluent from plant used for prodn. of NH_3 synthesis gases by steam reforming of hydrocarbons. 11. 4. 74 as 81253/78 Add to 41219/74 C01b-2/30, B01d-53/34, C02c-5/04 (8. 9. 79) SUMITOMO CHEMICAL KK (8pp)(J54015494)

TOKE ★ D15 72989B/40 ★J7 9027-668

Water circulating electrical appts. - including multilayer fibrous aluminium material to remove metal ions

TOKYO SHIBAURA ELEC LTD 28.04.72-JA-042745

J01 R59 (11.09.79) B01d-15 C02b-01/14 H05k-07/20

A water-circulating electric appts includes metal ion-removing means comprising multi-layered fibrous Al material in the water-circulating path so as to remove metal ions, e.g. Cu^{2+}, Zn^{2+}, Pb^{2+} and Fe^{3+} etc. by the reactions, $Al+M(OH)_n$ $M+Al(OH)_3$ and $XAl(OH)_3 = yM(OH)_n$ $XAl(OH)_3 \cdot yM(OH)_n$, (where M is the heavy metal ion) without any practical discharge of Al^{3+} ion and the metal ions to the outside of the system. 28. 4. 72 as 042745 C02b-1/14, B01d-15/00, H05k-7/20 (11. 9. 79) TOKYO SHIBAURA ELEC LDT (9pp34)

STER D15 35218T/22 =J7 9027-669

Sewage oxidn system - using flash steam for preheating sludge

STERLING DRUG INC 18.01.71-US-107393

*(11.09.79) *US3661-778 +C02c-03*

Raw sewage liquor and contained air is preheated in a heat exchanger and is then passed to an oxidising reactor. After oxidation the liquor is introduced into a gas separator from the liquor is passed to a flash tank where it is reduced to an intermediate pressure and flash steam is produced.

The steam is introduced through a temp. control valve to the heat exchanger for preheating the incoming material. The oxidised liquor remaining in the flash tank is removed for separate treatment. 18. 1. 72 as 007211 (clg. 18. 1. 71-US-107393) C02c-3/00 (11. 9. 79) STERLING DRUG INC (3pp)(J47015371)

FUSO- ★ D15 73004B/40 ★J7 9027-838
Deodorising sewage gases - by scrubbing with caustic soda soln. at controlled pH before absorption in active carbon
FUSO KK 21.05.73-JA-055724
(12.09.79) B01d-53/34

Gases containing benzene, toluene, butane, ethylene, formaldehyde, n-hexane, amine, acrolein, acrylonitrile, oxygen, carbon dioxide, carbon monoxide and lower hydrocarbons are cleaned with caustic soda solution at a pH 10-10.5. The wet saturated gas is contacted with an adsorbed in active carbon layer. Used for treating urine and excrement contg. media.

Process is low cost and power consumption is low. 21. 5. 73 as 055724 B01d-53/34 (10. 9. 79) FUSO CHEMICAL IND KK (12pp15)(J50005275)

RUDL/ ★ D15 73119B/40 ★SU -640-107
Unit for evaporation cooling of liquids - has additional surface heat exchanger connected to main circulation circuit
RUD L F 01.08.77-SU-512613
J07 Q74 Q78 (23.02.79) F24f-03/14 F28c-03/08

The unit for evapn. cooling of liquids can be used in return water-supply systems. The unit contains a fan, main and auxiliary chambers which are divided by a baffle and connected to corresp. liq. circulation circuits, auxiliary circuit surface heat-exchanger placed in the main chamber, main circuit contact heat-exchanger, and auxiliary circuit contact heat-exchanger placed in the auxiliary chamber.

In order to intensify the heat mass transfer, an additional surface heat exchanger is connected to the main circulation circuit. The fan is placed above both chambers A more deep cooling of auxiliary liq. is achieved in the contact heat-exchanger situated in the auxiliary circuit.
Rud, L.F. Bul. 48/30.12.79. 1.8.77. as 512613 (2pp110)

ULYA= ★ D15 73175B/40 ★SU -640-977
Vacuum deaerator for use in power plants and boiler units - contains lattice screen mounted below and parallel to bubbler plate, to dampen of kinetic energy of flowing water
ULYANOVSK POLY 25.04.77-SU-480668
(08.01.79) C02b-01/10

Increased intensity of the deaeration process in the evaporation feed-water deaerating heater described in Parent Patent Cert. No. 257511 for use in thermal power stations and boiler installations is ensured by securing uniform height of steam cushion under the whole area of the bubbler plate. For this purpose, under the bubbler plate and parallel to it is mounted a lattice screen for damping kinetic energy of the flowing water which, particularly during transient conditions of operation (starts, stoppages, changes of load, and varying parameters of heat carrier), produces phenomena of hydraulic shocks damaging to the bubbler plate.
Nemtsev, Z.F. Sharapov, V.I. Bul. 1/5.1.79. 25.4.77. as 480668 Add to 257511 (2pp135)

KRAS= ★ D15 73177B/40 ★SU -640-979
Domestic waste water purificn. - by adjusting to alkaline PH before coagulation stage and disinfection with ozone
KRASNOYARSKII PROMS 06.07.76-SU-381732
(08.01.79) C02c-01/40

More effective purifcn. of high concn. domestic waste water is based on adjusting to pH 8-8.5 before coagulation stage and finally disinfecting prod. with 50-55 mg/l. O_3 for 20-30 mins. The adjustment in pH (originally at 6.5) gives metal hydroxides ppte. which settles out with impurities.
Mochalov, I.P. Bul. 1/5.1.79. 6.7.76. as 381732 (3pp 114)

DORO ★ D15 73414B/40 ★US 4168-670
Sewage sludge incineration using high sulphur fuel - after conditioning with lime, giving reduced sulphur di:oxide emission
DORR OLIVER INC 13.01.78-US-869200 (03.01.77-US-756169)
J09 Q73 (25.09.79) F23g-07

In the disposal of a sewage waste stream (a) lime and fine crushed coal are added to the waste stream as filtering aids; (b) the stream is dewatered, and (c) the filter cake is incinerated.

The improvement comprises using a high sulphur content auxiliary fuel to burn the cake. The lime in the sludge reacts with the sulphur and oxygen to form CaSO$_4$, which is removed along with the residues left after burning.

The process makes it possible to use cheap S-contg. fuels without the prodn. of large amts. of SO$_3$ in the flue gas. 13. 1. 78 as 869200 (4pp955)

SZCE/ ★ D15 73457B/40 ★US 4168-97
Recovering noble metals from geologic bodies of water - by passing water through cation exchange resinous particulates charged wit sodium or hydrogen
SZCZEPANSKI L V 23.05.77-US-799139
A91 M25 (25.09.79) C22b-11/04

Au is recovered from the sea by passing water and seabed sediment through an ion exchanger having cation exchange resinous particles which are insoluble in water an charged with H or Na. The particles may consist of cation exchange crosslinking polymer resin particles which are disposed in a column. Au may also be recovered in similar fashion from a geologic body of water having a sandy bed.

Used for recovering noble metals from fresh water rivers and lakes, brackish estuaries, and salt water seas and oceans. The recovery does not require pretreatment of the sea water or seabed sediment. The H or Na is exchanged for the Au in the water and sediment. 23. 5. 77 as 799139 (7pp1044)

EINH- D15 33657A/19 =US 4169-035
Electrolytic cell for water treatment - with flexible cathode to prevent formation of deposits
FA EINHELL H 29.10.76-DT-649649
*J03 P34 (25.09.79) *DT2649-649 C25b-09 +C25b-11/02 C25b-15/08*

An electrolytic cell has a housing with an upper outlet and a lower inlet, a grid anode on the inner wall of the housing a diaphragm parallel to the anode, an elastically movable cathode interiorly of the diaphragm, and a conical flow body mounted adjacent the inlet and outlet and formed of a rotor with blades which do not contact the cathode. The flow body tapers towards the outlet.

Pref. a compensating valve adjusts the fluid(water) flow in response to the mechanical properties of the cathode.

No deposits form on the electrodes. 31. 10. 77 as 847101 (6pp1376)

ALBE/ ★ D15 73498B/40 ★US 4169-048
Anaerobic fermentation of animal excreta - in collapsible bag filled to exclude air to produce methane and fertiliser
ALBERS T 18.08.78-US-934857
(25.09.79) C02c-01/14

Animal excreta is anaerobically fermented by receiving it in an open gutter where it is held until a predetermined portion of the excreta becomes liquefied. This liq. is drained off and delivered to one end of an elongated collapsible bag devoid of any significant quantity of air. A barrier is applied to the bag adjacent the inlet end of the bag to prevent the liq. excreta from flowing into the remainder of the bag. The barrier is moved along the length of the bag to allow it to become progressively filled.

The contents of the bag are maintained at a temp. conducive to fermentation and gases are vented. Liq. excreta is tapped off from the opposite end of the bag to the inlet after a predetermined degree of fermentation has occured.

The method is used to convert animal excreta into combustible gases and a fertiliser. The method is particularly useful for obtaining methane and a nitrogen-rich fertiliser from cattle excreta. 18. 8. 78 as 934857 (5pp295)

OSAY D15 04344B/03 =US 4169-049
Purifying waste waters, esp. sulphate pulp bleaching waters - in bio-filter contg. bacteria growing in chlorinated phenol and aromatic carboxylic acid
ENSO GUTZEIT OY 01.07.77-SF-002069
*E14 F09 (25.09.79) *DT2807-529 C02c-01 04*

ste water purificn. for treatment of water contg. chlori-ted phenols in a biofilter having a layer contg. wood bark mprises forming a bacterial population (I) in the bark yer and passing the waste water through the biofilter to ect purificn.

(I) comprises $\geq$1 bacterial strain deposited in the iversity of Helsinki Institute of General Microbiology der the deposition codes YM 134-202 and YM 241-268. is formed by packing into biofilters crushed conifer-s tree bark and bacteriferous water, ooze, mud or bark sidues taken from water polluted by (un)chlorinated phe-ls and aromatic carboxylic acids and feeding into the bio-ters water contg. the substances.

The bacterial strains accept the phenols and use the enols and aromatic carboxylic acids as their sources of rbon and energy. 2.2.78 as 874523 (8pp982)

LA- ★ D15 73499B/40 ★US 4169-050

erobic treatment of waste water - using submerged plastic bio-eb substrates for increasing fixed bacterial film area

SOLAR AQUASYSTEMS 03.11.77-US-848092

A93 (25.09.79) C02b-01/28

olluted water is made to flow through an earthened pond t a rate which gives it an average residence time of $\geq$24 rs. Groups of bottom anchored, flexible, buoyant, non-iodegradable, high-surface-area substrates are suspend-d in the water while maintaining an unobstructed water urface.

Each of the substrates is of elongate form and floats up-vardly from its anchor generally vertically. Most of the ubstrates have a length less than the depth of the water. he substrates cause agglomeration and sedimentation of uspended particles. The dissolved pollutants in the water ontact microorganisms on the substrates to effect biologi-al uptake and metabolism of the pollutants and their re-moval from the water.

The system is used to treat polluted water such as sew-age, industrial or agricultural waste water. The system is relatively cheap to constrct and operate and provide a harvest of fish, shrimp and high protein aquatic plants. 3.11.77 as 848092 (9pp295)

INSF D15 65283A/37 =US 4169-052

Cleaning media or surfaces contg. oils, fats or organic cpds. - by absorbing on fine leather particles or fibres

INST FRANCAIS DU PETROLE 11.03.77-FR-007580

*G04 (D18) (25.09.79) *BE-864-588 C02b-09/02*

Surfaces and media which are contaminated with fatty materials, such as hydrocarbons, vegetable or animal oils or fats, organic solvents and other organic cpds. are cleaned with an absorption mass.

The absorption mass comprises absorptive leather particles or fibres of size $<$1 cm., obtd. from tanning animal skin, then crushing the tanned skin. The leather particles used have leather surfaces in direct contact with the oil or fat materials during absorption. Pref. the tanning agent is a chromium salt. The particles of fibres are obtd. by drying wet-blue leather wastes under mild conditions to 15-25 wt.% water content prior to crushing.

The prod. formed is esp. used to clean oil field waters tanker wash waters, refinery waters and tank waters. The prods. are thermally destroyed after their use as purification agents. 10.3.78 as 885224 (3pp931)

NIDE D15 13286Y/08 =US 4169-053

Treatment of effluent contg. difficultly soluble ingredients - by adding specific quantities of iron cpds. and alkali in the absence of air to ppte. ferrites contg. the impurity as inclusions (NL100277)

NIPPON ELECTRIC KK 08.08.75-JA-096521

*L02 (25.09.79) *DT2635-672 C02c-05/02 + C02b-01/20*

Waste water contg. solids of slightly soluble (hydr)oxides, carbonates, sulphates and chlorides of $\geq$1 heavy metal, is treated by adding an amt. of ferrous ions corresp. on a molar basis to $\sim$2-100 times the total molar amt. of heavy metal in the water, adding an alkali metal hydroxide in an amt. corresp. to 0.9-1.2 equivs. of free acid in the water and stirring the water under conditions without passing air or adding oxidant so as to incorporate heavy metal ions in $\geq$1 cpd. into ferrite crystals formed during stirring at 40-95°C, and sepg. the ferrite crystals from the waste water.

The ferrites obtd. can be recycled and esp. $FeCl_2$ and $FeSO_4$ are used as the cpds. are used in pickling iron sheets, and in prodn. of Ti oxide. 3.1.78 as 866416 (+6.8.76-US-712323) (4pp982)

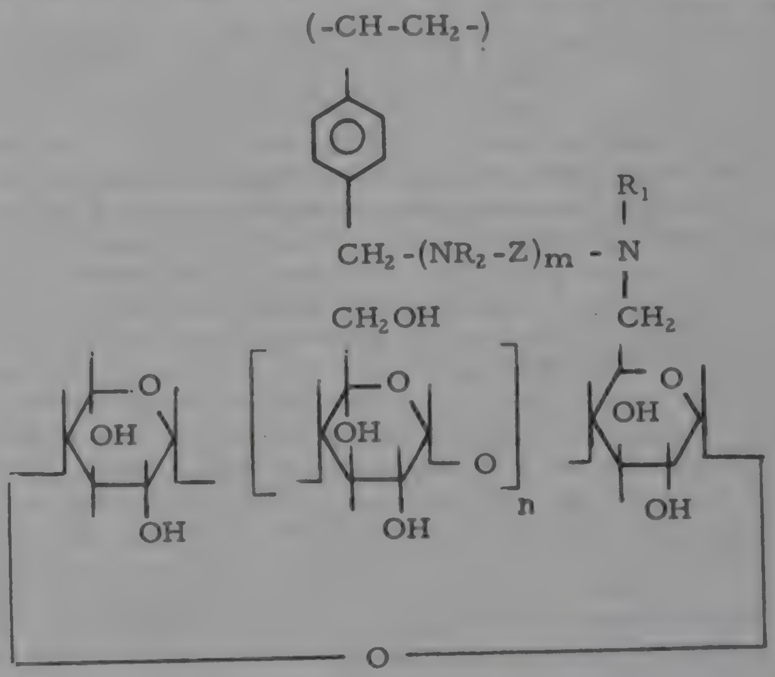
TABU/ D15 47719B/26 =US 4169-079

Removing water-soluble organic material from aq. soln. - by contacting with cyclodextrin-contg. styrene polymer, used in water treatment, analysis etc.

TABUSHI I 24.10.77-JA-126741 (24.10.77-JA-126738)

*A97 E14 J04 (A11 A13 E15) (25.09.79) *J54060-761 + C08f-08 C08l-05/16*

A polystyrene base polymer is claimed contg. cyclodextrin -contg. units, and has units of formula (I). Also claimed is a metal complex formed by contacting (I) with an aq.



soln. of a salt of Cu, Zn, Ni, Mg, Mn, Co, Al or Fe.

In (I) m is 1-10; n is 4-6; R_1 and R_2 are H or 1-3C alkyl; and Z is 1-5C alkylene.

(I) are water-insoluble and allow sepn., removal and recovery of organic cpds., e.g. medicines from water. 24.4.78 as 899532 (+24.10.77(2)-JA-126739/40) (12pp997)

See Also

D16 J5 4109070 D22 J5 4107517

D16 : FERMENTATION INDUSTRY

See page 11 for D16 BE 875-161

DYNN ★ D16 71746B/40 ★BE-876-354

Regeneration of enzyme immobilisates - using salt soln. to desorb inactivated enzyme

DYNAMIT NOBEL AG 19.05.78-DT-821890

B04 (17.09.79) C12b

Regeneration of inactivated enzyme immobilisates comprises an enzyme immobilised on a support) is carried out by desorbing the inactivated enzyme with a soln. of a salt and treating the support with a fresh enzyme soln. The treatment removes the inactivated enzyme without impairing the immobilising power of the support.

The salt soln. is pref. a 10-40 (esp. 20-30) wt.% aq. soln. of $(NH_4)_2SO_4$, pref. buffered to pH 5-11 (esp. 7-9). Desorption is pref. followed by washing with a buffer soln. If the enzyme has already been desorbed during use, regeneration can be effected simply by washing and treating with fresh enzyme soln. The immobilisate pref. comprises an enzyme (esp. an acrylase) non-covalently bound to a support, e. g. by ionic attraction or adsorption. A pref. support comprises a mineral carrier treated with an alkoxy-silane contg. aminoalkyl or aminoaryl gps. 18. 5. 79 as 876354 (8pp367)

WAGB ★ D16 71748B/40 ★BE -876-373

Preserving yeast culture during continuous alcoholic fermentation - using flocculating yeast which is removed by sedimentation and partly recycled

WAAGNER BIRO AG 19.05.78-OE-003665

(17.09.79) C12c

Method for preserving a yeast culture during continuous fermentation of a sugar-contg. wort for alcohol prodn., comprises using a flocculating yeast, which, after fermentation, is continuously sepd. in a sedimentor from the partially fermented wort. The yeast is then sepd. into a fraction for recycle and a fraction for harvesting.

The homogenised recycle fraction is returned either to the fermentor or to the feed wort, and the fermentation stage contains ≯150% of the yeast needed to achieve fermentation in the required time. The residence time in the sedimentor is ≯0.5 that in the fermentor.

Alcohol content of the prod. is increased and deleterious bacteria are not introduced into the fresh wort. . . 19. 5. 79 as 876373 (19pp1251)

BIOT ★ D16 71802B/40 ★BE -876-567

Culture flask for collecting liq., esp. urine, for germ, count - needs only tiny sample to cover culture medium in base cavities

BIOTEST SERUM INST GMBH 26.05.78-DT-U15774

B04 R16 (17.09.79) B01l G01n

The flask takes the form of an open-topped jar sealed with a removable lid. The base of the jar has interior cavities to be charged with a culture medium. The liq. pref. has an underslung, central base forming a well which can contain an anti-condensation agent. The inside of the jar has an annular shoulder on which the base of the liq. abuts.

The jar base cavities are pref. formed as concentric channels. The lid is pref. screwed on to the jar top. The inside of the base can be subdivided into sections by partitions integral with and rising from the base.

Used partic. for the collection of a urine sample from which a bacteria count can be made for the medical diagnosis of urinary infections etcs. Also for collecting samples to enable germ counts to be taken from food prods. such as mineral waters and milk drinks, as well as from swimming baths and aquaria. 25. 5. 79 as 876567 (12pp448)

LKBP ★ D16 71832B/40 ★BE -876-662

Adenine tri:phosphate determn. by bio-luminescence - using luciferin, luciferase and competitive inhibitor to give stable light intensity

LKB PRODUKTER AB 31.05.78-SW-006296

B02 J04 R16 (17.09.79) G01n

Determination of ATP comprises contacting the sample with D-luciferin, luciferase and Mg^{2+} ions (or certain other metal ions) so that the ATP and D-luciferin become bonded to the luciferase. The intensity of the light emitted by the reaction is a measure of the ATP concn. The improvement comprises adding a D-luciferin analogue (I) as competitive inhibitor for the reaction. (I) is pref. added in a concn. which reduces the light intensity by ⩾25 (esp. 50-90)%, and is pref. L-luciferin.

The presence of (I) gives a more stable level of luminous intensity, and hence higher sensitivity and reproducibility. The process can be used with ATP conversion reactions (i. e. where the ATP concn. varies), e. g. enzymic and NAD/NADH reactions important in clinical chemistry and microbiology, biochemistry and biology. The presence of (I) also gives saturation of luminous intensity at a lower D-luciferin concn., so that less (expensive) D-luciferin can be used. The stable intensity also allows easier measurement. Intracellular and extracellular ATP can be determined in the same sample, by determining the extracellular ATP, adding a lytic reagent and measuring the increase in light tensity. 30. 5. 79 as 876662 (25pp941)

KYOW D16 61798V/35 =DS 2406-

RNA-Enzymatic hydrolysis - to nucleoside 2,3- and cyclophosphates with intact cells of microorganisms in presence chelate formers and phosphate ions

KYOWA HAKKO KOGYO 24.03.73-JA-033088 (14.02.73-017449)

*B04 (B02 B03) (27.09.79) *DT2406-811 C07h-19/20*

Prepn. of nucleoside 2', 3'-cyclophosphates propagation Escherichia coli (esp. ATCC 10798); Aerobacter aeroge ATCC 8329; Slamonella typhosa, ATCC 9992; Pseudomo aeruginosa, ATCC 15246; Hansenula anomala, ATCC 20 Kloeckera apiculata, ATCC 18212; or Torulopsis sphae ca, ATCC 8549 in aq. media contg. the usual nutrients, the corresp. ribinucleic acid, a chelating agent (esp. E cyclohexanediaminetetraacetic acid, or hydroxyethylenediamine-triacetic acid), opt. phosphate (0-0.17 m), and buffer agents at pH about 5. 13.2.74 as 406811(4pp47)

OLYU D16 65664A/37 =DS 2849-

Fluid feed device for automatic incubator - with detachable p inlets and swivelling dispenser

OLYMPUS OPTICAL KK 05.04.77-JA-041589

*A88 (A26) (27.09.79) *DT2809-032 C12k-01/10*

The liquid feed for an automatic incubator can be change over from one to another liquid storage container by a motor with a first crank of a given eccentricity on its dr ve shaft. The vertical driven shaft has two pipes, with dispensing openings in their L-shaped bottom part which are 180° offset. A second crank on this driven shaft has a greater eccentricity than the first. A link joins the two cranks and causes the driven shaft to perform a reciprocating motion. Two microswitches at the ends of this mo tion control the motor reversal.

This device can be operated by less skilled assistants without risk of contamination. 2.3.78 as 849564(Div. ex 2809032)(7pp39)

BURK/ ★ D16 71884B/40 ★DT 2810-89

Compost dump aeration system - with vertical lances leavin aeration channels after extn.

BURKLIN W 13.03.78-DT-810892

(27.09.79) C05f-09/02

Stockpile of compost is produced by spreading the materi from a gantry in several horizontal layers over a wide area. Groups of lances are inserted in a vertical direction for aeration with compressed air and leave after withdrawal a system of aeration channels. The whole surface is scanned regularly for compactness and a computer determines where added aeration is needed.

Arrangement provides a mechanised system of compos aeration with a minimum of manual work. 13. 3. 78 as 810892 (20pp39).

TECD ★ D16 72069B/40 ★DT 2909-90

Carbohydrate enzyme substrate immobilisation on carrier e.g alumina - by deposition and mixing with modifier to increase affinity

TECHNICON INST COR 14.03.78-US-886504

A89 J04 R16 (27.09.79) C08b-31 C08b-33 G01n-31/14 G01n-33/16

A carbohydrate enzyme substrate, pref. a polysaccharide esp. a starch and partic. amylose, is immobilised by (i) deposition on a solid carrier and (ii) mixing the substrate and carrier with a modifier, to increase carbohydrate enzyme substrate affinity towards carrier.

The immobilised enzyme substrate is used as an affinity chromatography material. The carrier is pref. a refractory metal oxide, esp. Al_2O_3, partic. acid-activated Al_2O_3. Natural or synthetic fibre carriers may also be used, e.g. polyethylene, polypropylene, polyamide, polyester and polyacrylic cpds. 14. 3. 79 as 909904 (29pp200).

CALY ★ D16 72078B/40 ★DT 2910-414

Poly:glutaraldehyde, prepn. esp. as protein reactive microspheres - by dissolving glutaraldehyde in organic solvent and polymerising under alkaline conditions

CALIFORNIA INST OF TECHN 17.03.78-US-887825

A26 B04 J04 R16 (A96) (27.09.79) C07g-07 C08g-06 G01n-33 16

Prepn. of polyglutaraldehyde (PGA), PGA microspheres, magnetic metal- contg. PGA microspheres, fluorescent PGA derivs. and PGA-coated substrates is claimed.

PGA is prepd. by (a) dissolving glutaraldehyde (GA) in n aq. organic solvent medium contg. 5-80wt.% organic olvent; (b) increasing the pH of the soln. to > 7 (pref. -12); and (c) polymerising the GA, pref. by keeping the oln. at 15-30°C for 30-180 min. and then heating to > 40°C.

PGA contains conjugated aldehyde gps. $(-CH_2-CH_2-CH=C(CHO)-)$ which form stable bonds with NH_2-contg. cpds., e.g. proteins; it is easier to handle than GA and gives faster reaction rates. The PGA-based products can be used for electron-microscopic labelling, immunoassay, affinity chromatography, enzyme immobilisation, urea sepn., magnetic cell sepn., etc. 16.3.79 as 910414 (60pp)

NTE- ★ D16 72162B/40 ★EP ---4-431

Bacterial leaching of ores, esp. ferrous sulphide ores - including supplying oxygen in available combined form to bacteria

INTEROX CHEMICALS 23.03.78-GB-011541
M25 (03.10.79) C12d-13 C22b-03
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

In the bacterial leaching of ores to extract metal values from them, the improvement comprises supplying oxygen in available combined form to the bacteria. The combined oxygen may be supplied in soln. form, e.g. an H_2O_2 soln; or it may be supplied in solid form, e.g. a per-compound or a peroxide addition cpd.

The process is esp. for treating sulphide ores, which frequently contain ferrous ions either as such or in combination with other metals forming more complex sulphides, using Thiobacillus (incl. Ferrobacillus) microorganisms, more specifically Th. ferro-oxidans and Th.thio-oxidans. These microorganisms can oxidise the sulphide and ferrous ions to sulphate and ferric ions, which, in aq. soln., can leach other minerals, such as ores of uranium (and other actinides), Cd, Co, Sn, Ti, Cu, Ni, Zn and Mo. Thus valuable metals are leached, probably as soluble sulphate species.

The bacteria are provided with oxygen much more readily than by the use of an air sparge. As a result they grow much faster and increase the yield of the leaching process.

12.3.79 as 300373.(19pp914).

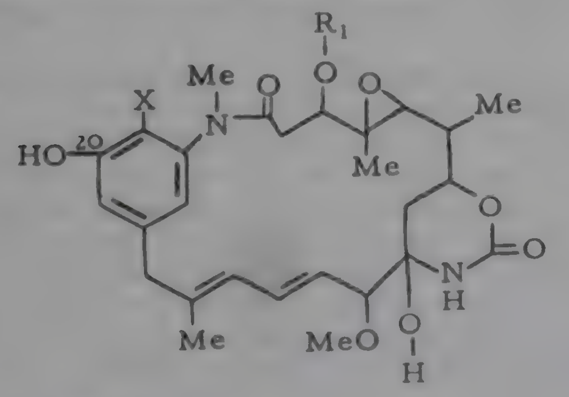
US 3679397; US3266889; FR2169263; FR2278631; US3268288.

TAKE ★ D16 72173B/40 ★EP ---4-466

20-Demethyl-maytansinoid derivs. - useful as antifungal, antiprotozoal and antitumour agents and as intermediates

TAKEDA YAKUHIN KOGY 22.12.78-JA-160787 (24.03.78-JA-034645)
B02 C02 (03.10.79) A61k-31/53 C07b-29/02 C07d-498/16
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Demethylmaytansinoid derivs. of formula (I) are new:



(I)

(X is H or Cl; and
R_1 is H or acyl).

(I) are antifungal, antiprotozoal and antitumour agents with low toxicity, and are intermediates.

23.3.79 as 300469 (129pp1248)

(E) ISR: US3896111; 3 Journal References.

BOUR/ ★ D16 72194B/40 ★FR 2412-263

Treating mushrooms for freezing, under vacuum - then impregnating with a treatment liquid

BOURNIER E 21.12.77-FR-038726 (04.09.72-FR-031308)
(24.08.79) A23b-07/04 A23l-01/28

The Paris mushrooms are put under vacuum in a sealed area then contacted with a treatment liquid so that the liquid impregnates the mushrooms when the vacuum is broken.

A pref. liquid contains water, mushroom juice, egg white, salt and flavourings. A specified liquid contains 20g/l of salt and 5-10 g/l alcohol vinegar, wine or cider.

The mushrooms do not darken on freezing like sulphite treated mushrooms, and are also satisfactory for coating with latter etc before freezing. They also keep better than sulphite treated mushrooms in open freezer compartments. 21.12.77 as 038726 Add to 4.9.72-031308(4pp597)

ZAID D16 55160A/31 =GB 1553-656

Amastatine A1, A2, A3, B1, B2 aminopeptidase A inhibitors - which stimulate antibody formation, are 3-amino-2 hydroxy-4- or 5-L-valyl-L-valyl tetra:peptide(s)

ZH BISEIBUTSU KAGAKU KEN 22.07.77-JA-088729
*B04 (03.10.79) *BE-865-565 C07c-101/30 C07c-103/52*

Tetrapeptides are of formula H-X-Val-Val-Y-OH (I) and their salts, esters and N-acylated derivs. are new. In (I) X is (i) 3 (R)-amino-2(S)-hydroxy-5-methylhexanoyl or (ii) 3-amino-2-hydroxy-4-methylhexanoyl. Val is L-valyl. Y is L-aspartic or L-glutamic acid if X is (i), or L-glutamic acid if X is (ii). The amino gp. of the Val adjacent X, between the Vals and of the Y adjacent Val all form amide bonds.

Pref. are N-acetyl derivs. and dimethyl esters of (I). Specifically claimed cpds. include 3(R)amino-2(S)hydroxy-5-methylhexanoyl-L-valyl-L-valyl-L-aspartic acid.

(I) have an inhibitory effect on aminopeptidase A and show stimulation of antibody formation.

They may be prepd. by aerobic cultivation of Streptomyces esp. sp. ME98-M3 (FERM P-3722 ATCC 31318).
3.4.78 as 012875 (26pp974).

UNIC D16 76297A/43 #GB 1553-662

Glutaraldehyde sterilisation of fermentation media - with greatly reduced energy use compared with steam sterilisation

UNION CARBIDE CORP 22.12.76-US-753565 (13.04.78-GB-014494)
*B02 E17 (03.10.79) *BE-866-178 +C12b-03/16*

Microbiological medium for use in microbial fermentation is sterilised by (1) contacting with glutaraldehyde to achieve the desired degree of microbiological purity; (2) adjusting the pH of the sterilised medium to >6.5; and (3) contacting with ≥1 N-contg. cpd. selected from NH_3, primary or sec. amines, heterocyclic amines, ureas and amides to inactivate the glutaraldehyde to form a sterilised microbiological medium suitable for inoculation with the desired microorganism for fermentation.

Process is esp. used for the prodn. of Penicillin-G, Cephalosporin 'C', ethanol or xanthan gum by submerged culture fermentation. 13.4.78. as 014494 (7pp997)

UNIL D16 96248X/52 =GB 1553-664

Vaccines contg. antigens adsorbed on erythrocytes - esp. for control of diarrhoea in piglets

UNILEVER LTD 12.06.75-GB-025221
*B04 C03 (03.10.79) *BE-842-814 +A61k-35/18*

Novel antigenic compsns. comprise an enteropathogenic bacterial adhesion factor adsorbed onto erythrocytes possessing their natural surface characteristics, in a pharmaceutically acceptable carrier and/or diluent.

Pref. the adhesion factor is from an enteropathogenic strain of E. coli, esp. K 88a, b/adhesion factor. Pref. the erythrocytes are chicken erythrocytes. Compsns. are esp. used against neonatal diarrhoea of pigs.
10.6.76. (4pp974)

HENK ★ D16 72257B/40 ★GB 2016-996

Extruding live yeast granulate - from an extruder containing pressurised gas

HENKEL KG AUF AKTIEN 25.03.78-DT-813077
(03.10.79) C12c-11/26

Live yeast granulate is made by extruding wet yeast from an extruder contg. a pressurised gas such as air. The gas is absorbed into the yeast and causes the extrudate to have a rough surface and to break into granules without the use of a cutter. Pref. the extruded granulate is dried. An emulsifier may be added if desired.

The rough surface of the granulate facilitates its drying and subsequent rehydration. 20. 3. 79. as 009664 (4pp 515)

PROT- ★ D16 B/40 ★ IT 1032-801
Bitter aperitif - based on wines, spirits and herbs
SAS PROTINO GIOVANN 19.06.69-IT-049908
(20.06.79) C12g

ASAH ★ D16 72486B/40 ★ J5 4107-510
Prodn. of plasminogen-activating substance - by contacting suitable animal cells with serine contg. soln.
ASAHI CHEMICAL IND KK 08.02.78-JA-012289
B04 (23.08.79) A61k-35/12 A61k-37/02

Prodn. of plasminogen-activating factor comprises contacting cell having power that produces plasminogen-activating factor, the cell originating from animal, to soln. contg. 0. 2-3. 0% (w/v) of serine.

Stable quality and high concn. of material liquor may be fed in mass amt. to yield plasminogen-activating factor and yield of plasminogen-activating factor may be considerably increased. 8. 2. 78 as 012289 (5pp69)

ASAH ★ D16 72487B/40 ★ J5 4107-511
Prodn. of plasminogen-activating factor - by contacting suitable animal tissue with soln. contg. threonine
ASAHI CHEMICAL IND KK 10.02.78-JA-013604
B04 (23.08.79) A61k-35/12 A61k-37/02

Prodn. of plasminogen-activating factor comprises contacting suitable animal tissue to a soln. contg. 0. 1-4. 0% (wt./v) of threonine. Stable quality and high concn. of material liquor may be fed and high yield of plasminogen-activating factor is obtd. 10. 2. 78 as 013604 (5pp69)

MEIT ★ D16 72488B/40 ★ J5 4107-512
Low toxicity antitumour drug Helvellan - produced by culturing fungi of Helvella genus
MEITO SANGYO CO KK 10.02.78-JA-013369
B04 (23.08.79) A61k-35/84 C12d-09/04

Antitumour drug contains antitumour substance Helvellan produced by fungi of Helvella genus.

Helvellan has very low toxicity and excellent antitimour activity. Material has following properties. (1) LD$_{50}$ (ICR-JCL series mouse oral admin.) > 20,000 mg/kg; LD$_{50}$ (ICR-ICL series mouse abdominal admin.) > 6,000 mg/kg. (2) Strong antitumour activity to Salcoma 180. (3) White colour, tasteless and odourless. (4) Homogenity by ultracentrifugal method. (5) Analysis C, 43. 6%; H, 6. 17%. (6) Specific rotation $[\alpha]_D^{25}$ + 16° (C=1 %, 0. 5 N NaOH)

(7) High polymer comprising D-glucose, the polymer does not pass through semipermeable membrane. (8) Positive to Molisch reaction, anthrone sulphuric acid reaction and phenol sulphuric acid reaction.

As example of fungi of Helvella genus of Helvellaceae in Pezizales in Ascosuycetes may be cited Helvella lacunosa FERM P-4381 strain. 10. 2. 78 as 013369 (5pp69)

DNIN ★ D16 72507B/40 ★ J5 4107-582
Actinomyces mycelium prodn. - by culturing actinomyces specifically Norcardia methanophilos in medium contg. methanol as carbon source
DAINIPPON INK CHEM KK (DNII) 09.02.78-JA-013002
(23.08.79) C12b-01/08

Prodn. of mycelium (I) of Actinomyces (II), which utilises methanol (III) and belongs to Nocardia, comprises culturing (II) in a culture medium contg. (III) as carbon source.

(I) is a novel stock. (II) is named as Nocardia methanophilus. Pref. (II) is submerged liquid cultured. Other carbon sources other than (III), 0. 1-0. 5 wt. % of nitrogen sources, such as urea, ammonia, ammonium sulphate, ammonium nitrate, etc., 0.05-0. 5 wt. % of phosphates, such as K dihydrogen phosphate, dipotassium hydrogen phosphate, etc., inorganic salts, such as 0.03-0. 5 wt. % of Mg sulphate and 5-20 mg/l of Ca chloride are contained in the culture medium.

For acceleration of growth of (II), 0. 01-0. 05 wt. % of yeast extract or 0. 05-0. 1 wt. % of asparagine is added. The conc. of (III) in the culture medium should be 0. 5-2. 0 wt. % (II) is cultured at about 40 °C and pH 7. 0, to obtain ≥ 10 g/l of (I). 9. 2. 78 as 013002 (5pp42)

SEGK ★ D16 72508B/40 ★ J5 4107-58
Pure heparinase prodn. - by subjecting partially purified liquor to column chromatography using cation exchanger as sepg. agent
SEIKAGAKU KK 10.02.78-JA-014548
B04 (23.08.79) C07g-07/02 C12d-13/10

Process comprises subjecting partially purified liquor (I) of heparinase to column chromatography using cation exchanger as sepg. agent. Pref. (I) is obtd. by treating extract, obtd. after breakdown of heparinase-producing fungi body, with protamine sulphate and fractionating by means of hydroxyapatite.

Fungi body is esp. of Flavobacterium genus cultured in a culture medium contg. heparine. Pref. the cation exchanger is cation exchange cellulose, cation exchange cross-linked dextran or cation exchange agarose. Hepari is a kind acidic mucopolysaccharide found in mucous coat of the intestine, lung or liver and the substance is used widely for blood coagulation-inhibition, to treat and prevent thrombus, and e. g. to lower blood lipid levels. 10. 2. 78 as 014548 (4pp69)

SEGK ★ D16 72509B/40 ★ J5 4107-585
Pure heparinase prodn. - using heparin-fired agarose treated with heparin as sepn. agent in chromatographic column
SEIKAGAKU KK 10.02.78-JA-014549
B04 (D21) (23.08.79) C07g-07/02 C12d-13/10

Prepn. of pure heparitinase comprises subjecting partially purified liquor of heparitinase to column chromatography, using heparin-fixed agarose treated with heparin as sepg. agent. The partially purified liquor of haparitinase is liquor contg. heparitinase that is prepd. by treating extract, obtd. after breakdown of heparitinase-producing fungi body with partially purified liquor of heparitinase, with protamine sulphate and fractionated with hydroxyapatite. Pref. the fungi body is flavobacterium genus of fungi body cultured by means of culture medium where is added heparin. Heparitin sulphate is a kind of acidic mucopolysaccharide present in a place where chondroitin sulphate is present such as skin or vessel of animals. Heparitin sulphate is expected to be used in pharmaceuticals or cosmetics. 10. 2. 78 as 014549 (5pp69)

SEGK ★ D16 72510B/40 ★ J5 4107-586
Pure chondroitinase B prodn. - by chromatography using heparin-fixed agarose treated with chondroitin sulphate B as sepg. agent
SEIKAGAKU KK 10.02.78-JA-014550
B04 (D21) (23.08.79) C07g-07/02 C12d-13/10

Pure chondroitinase B is produced by subjecting partially purified condroitinase B liquor to column chromatography using a heparin-fixed agarose, treated with chondroitin sulphate B type, as sepg. agent. Pref. the partially purified is obtd. by treating extract, obtd. after break-down of chondroitinase B-producing fungal body, with protamine sulphate further fractionated by means of hydroxyapatite. Pref. the fungi body is of the fravobacterium genus cultured in a culture medium added with chondroitin sulphate or heparin.

Chondroitin sulphate B type is acidic mucopolysaccharid found with hepalitin sulphate on skin or vessels of animals and the substance promotes metabolism of cell by its water-holding property and blood coagulation inhibiting mechanism. Clarifying the structure of chondroitin sulphate B type is important for research of roll of chondroitin sulphate B type in living body and physiological mechanism. The elucidation of those items aids the development of chondroitin sulphate B type for medical application or cosmetic application. 10. 2. 78 as 014550 (7pp69)

SEGK ★ D16 72511B/40 ★ J5 4107-587
Pure chondroitinase C prodn. - by subjecting partially purified liquor of chondroitinase C to column chromatography
SEIKAGAKU KK 10.02.78-JA-014551
B04 (D13 D21) (23.08.79) C07g-07/02 C12d-13/10

Process comprises subjecting partially purified liquor of chondroitinase C (I) to column chromatography by means of chondroitin sulphate B type-fixed agarose treated with chondroitin sulphate B type as sepg. agent.

Pref. (I) is liquor contg. chondroitinase C that is prepd. by treating extract obtd. after break-down of chondroitinase C-producing fungi body with protamin sulphate and tionating resultant substance by means of hydroxyapat-

Chondroitin sulphate C type is used in pharmaceuticals, d additives and cosmetics. 10. 2. 78 as 014551 (7pp69)

D ★ D16 72512B/40 ★ J5 4107-588

ease and elastase sepn. from Pseudomonas aeruginosa culture th - by adjusting ph to 4-6, then adsorbing onto ion exchange n and eluting with alkaline solvent

SHIONOGI KK 07.02.78-JA-013152

A96 B04 (23.08.79) C07g-07/02 C12d-13/10

new method for recovery of protease (I)and elastase (II) Pseudomonas aeruginosa (III), comprises (1) adjusting of the culture liquid, after culturing (III), to 4-6, (2) ding ion exchange resin (IV) buffered to pH 4-6 to the lture liquid, to adsorb (I) and (II) to (IV), and (3) eluting and (II) by alkaline solvent.

(I) and (II) can be recovered without the troublesome ocess for sepn. of mycelium from the culture liquid, and erefore the present method can be applied to mass prodn. (I) and (II).

(IV), such as 'Amberlite CG 50', 'Amberlite IRC 50', mberlite IR 120', Duolite C10, etc. (RTM's) are buffered contact with buffer soln., such as acetic acid buffer, oric acid buffer, phosphoric acid buffer, etc. The ratio wt. of (III) to wt. of the culture liquid is about 1.50-1/4 0-90% of (I) and (II) can be collected. 7. 2. 78 as 013152 pp42)

ORP ★ D16 72513B/40 ★ J5 4107-589

epn. and purificn. of Staphylokinase - by affinity chromatography sing plasminogen as ligand for carrier

MORISHITA PHARM KK (AJIN) 09.02.78-JA-013717

A96 B04 (23.08.79) C07g-07/02 C12d-13/10

epn. and purificn. of Staphylokinase comprises subjecting taphylokinase to affinity chromatography using plasminoen as ligand of carrier.

Staphylokinase (SAK) has fibre solubilising activity and he substance is expected to be useful as pharmaceutical. High purity of SAK standard sample may be produced by bove process.

As insoluble support may be used, e.g. agarose, Cephalose (RTM), cellulose, Cephadex (RTM), porous silica beads, polyacrylamide gel. 9. 2. 78 as 013717 (4pp69)

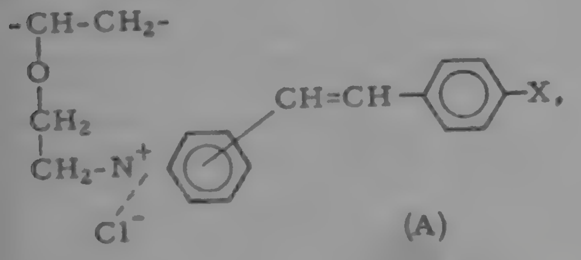
AGEN ★ D16 72514B/40 ★ J5 4107-590

nsolubilising enzyme - by adding to aq. soln. of photocrosslinkable resin then irradiating soln. with light

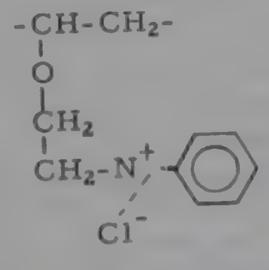
AGENCY OF IND SCI TECH 13.02.78-JA-015119

A97 B04 (23.08.79) C07g-07/02 C12d-13/10

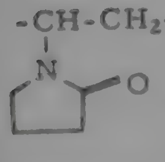
A photochemical method for insolubilising an enzyme (I) comprises (1) addn. of an enzyme to aq. soln. of resin (II), which consists of cross- linkable units of formulae, (A) and (B) or (C) and (2) irradiating with light to effect crosslinking.



(A)



(B)

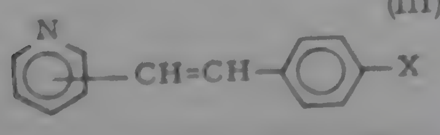


(C)

(X is H, lower alkyl or alkoxy).

When (I) fixed in gelled (II) is mixed in water, (I) separates from the gel. About 10 wt. % of (I) can be fixed in (II). The mole % of (A) in (II) should be 5-60%. (II) is produced, e.g. by (1) reaction between poly(2-chloroethyl vinyl ether) and stilbazole of formula (III), and reaction between the product and pyridine or (2) reaction between copolymer of 2-chloroethyl vinyl ether and N-vinyl pyrolidone and stilbazole.

(III)



The molecular wt. of (II)is pref. 5,000-200,000. The conc. of (II) in the soln. is 1-20 wt. % and the amt. of (I) added is 0.1-10 wt. % on the amt. of soln. 13. 2. 78 as 015119 (6pp42)

MITU ★ D16 72515B/40 ★ J5 4107-591

Prodn. of thioesterase used in acyl-coenzyme/A determn. - by crushing Bacillus pyocaneus and sepg thioesterase with cell membrane fraction using centrifuge

MITSUBISHI CHEM IND KK 10.02.78-JA-014794

B04 (23.08.79) C07g-07/02 C12d-13/10

Prodn. of thioesterase comprises crushing Bacillus pyocyaneus and sepg. thioesterase with cell membrane fraction by centrifugal fractionation.

As Bacillus pyocyaneus any strain is used, e.g. Bacillus pyocyaneus P-15-40 strain, Bacillus pyocyaneus M 12-E 5 strain and Bacillus pyocyaneas NIH 23 strain. Crushing pyocyaneus is carried out by e.g. French pressure, ultrasonic means, dissolution in lizothieme.

Thioesterase is useful as reagent for use in determn. of acylcoenzyme A. 10. 2. 78 as 014794 (3pp69)

SAGA ★ D16 72516B/40 ★ J5 4107-592

Optically active epoxide prepn. - by culturing Corynebacterium microorganism aerobically in culture medium contg. higher alpha-olefin

SAGAMI CHEM RES CENTRE 10.02.78-JA-013386

A41 B03 E13 (23.08.79) C12d-13

Prodn. of optically active epoxide (I) comprises (i) culturing aerobically a microbe (II), which belongs to Corynebacterium and utilises α-olefin (III), in culture medium contg. 14-25 C (III) and (ii) collecting (I) of carbon number corresp. to (III) from the culture medium.

Pref. 8-18C n-alkane is mixed with (III) in culture medium. (II) is cultured in culture medium contg. 1-10 vol. % of (III) and/or n-alkane, 10 g/l of $(NH_4)_2HPO_4$, 2 g/l of K_2HPO_4, 0.3 g/l of $MgSO_4 . 7H_2O$, 10 mg/l of $FeSO_4 . 7H_2O$, 8 mg/l of $ZnSO_4 . 7H_2O$, 8 mg/l of $MnSO_4 . 7H_2O$ and 0.2 g/l of yeast extract at 30°C for 3-7 days, for training culture and then cultured in the same culture medium for prodn. of (I). (I) is extracted with organic solvent, the extract is passed through silica gel column, unreacted α-olefin is recovered by passing hexane through the column and (I) is collected by elution with ether.

(I) is used as raw material for prodn. of polymer and optically active cpds. 10. 2. 78 as 013386 (6pp42)

HITB ★ D16 72517B/40 ★ J5 4107-594

NAD and glutathione prodn. - by culturing glutathione-producing yeast in medium contg. nicotinamide and/or nicotinic acid and adenine cpds.

HITACHI CHEMICAL KK 10.02.78-JA-014327

B02 (B04 B05) (23.08.79) C12d-13

Method comprises culturing glutathione-producing yeast in culture medium contg. nicotinamide and/or nicotinic acid and adenine cpds.

Pref. the yeast is Candida atilis n 74-8 (FERM P-3368). Amts. of nicotinamide and/or nicotic acid and adenine cpd. to added into culture medium are 0.05-5.0 g/L.

Glutathione is physiologically active tripeptide that plays important roll such as activation of various enzymes and antidotal action, the substance concerns to redox system in living body and GSH is very useful as pharmaceuticals. NAD is a coenzyme that concerns to redox system in living body etc.10. 2. 78 as 014327 (3pp)

MITU ★ D16 72518B/40 ★ J5 4107-596

Antibacterial bacteriocin prodn. from Bacillus pyocyaneus - by culturing in presence of Mitomycin-C

MITSUBISHI CHEM IND KK 10.02.78-JA-014795

B04 (23.08.79) C12d-09/20

Prodn. of Bacteriocin comprises culturing Bacillus pyocyaneus in the presence of Mitomycin C and sepg. flexible rod-shaped bacteriocin from the culture liquor.

Bacteriocin, proteinic antibacterial substance having activity to other bacterial strains, the substance that is produced by a certain bacteria strain usually has high anti-bacterial action that may kill a bacteria using very small amts. e.g. a particle. Otherwise, Bacillus pyocyaneus has resistance to antibiotics and recently, infections in hospital and fatal results on lowering of resistance of host has caused problems. Bacteriocin produced by bacillus pyocyaneus is called piocin and several kinds of piocin exist.

As Bacillus pyocyaneus may be used any one having power producing flexible rod-shaped bacteriocin in the presence of Mitomycin derived from fungi body. For example, Bacillus pyocyaneus P-15-40 strain (origined from Bacillus pyocyaneus P 15 strain, FERM P-4387) and bacillus pyocyaneus M 12-E5 strain (origined from bacillus pyocyaneus M 12 strain, FERM P-438) etc. 10. 9. 78 as 014795 (4pp69)

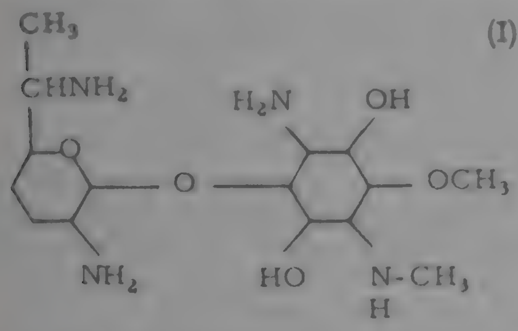
MITO ★ D16 72795B/40 ★J5 4109-070
Deodorising waste gas from sewage works, town refuse composting, etc. - by contacting with the compost obtd. from town refuse, and spraying with aq. inorganic acid soln.
MITSUBISHI HEAVY IND KK 15.02.78-JA-015429
J01 (D15) (27.08.79) B01d-53/34

Odourous exhaust gas, e.g. from composting plant of town waste, and sewage works, etc., containing mainly ammonia, sulphides, organic acid, etc., is easily and simply deodorised by contacting it with the compost obtd. from the composting plant, on which is sprayed dil. aq. soln. of inorg. acid, e.g. H_2SO_4, HCl, HNO_3 etc. Odourous components are adsorbed, dissolved in water contained in the compost, or degraded by microorgamisms.

Degradation deodorisation is very high; a wide variety of components can be removed; the inorganic acid is cheap and easily obtd.; the amt. of acid used is very small; the process is very simple and needs no special appts.; and the process gives no waste water, etc. 15. 2. 78 as 015429 (3pp34)

KYOW ★ D16 72884B/40 ★J5 4109-948
Antibacterial fortimicin - prepd. by culturing microorganism of micromonospora genus
KYOWA HAKKO KOGYO KK 13.02.78-JA-014076
B03 (29.08.79) C07h-15/22 C12d-09/14

Fortimicin KO_1 (free base) formula (I)



(I)

having the following properties and its nontoxic acid addn. salts are new. (I)has (i) appearance :basic white powder; (ii) mol. wt. by high resolution power mass spectra : 348, mol. formula : $C_{15}H_{32}N_4O_5$; (iii) m. pt. 77-79°C; (iv) UV absorption spectra: aq. soln. does not show specific maximum absorption at 220-360 nm and shows only end absorption; (v) specific rotation : $(\alpha)_D^{22} = +79°$ (C=0. 3, H_2O).

Prodn. of Fortimicin KO_1 which comprises culturing microorganism of Micromonospora genus. Fortimicin KO_1 is a novel cpd. having strong activity against a wide range of grammpositive and grammnegative bacteria (including many resistant strains) and the substance is expected to have application as antibiotics. 13. 2. 78 as 014076 (9pp69)

AGEN D16 44420Y/25 =J7 9027-439
Fixed enzyme prepn. using fibroin carrier - having good retention properties and long life
AGENCY OF IND SCI TECH 15.10.75-JA-123975
*B04 (10.09.79) *J52057-392 C07g-07/02 +C12d-13/10*

Method comprises adding and mixing enzymes in fibroin soln. (concn. 0. 5-4. 0% pref. 1. 0-3. 0wt. %) and forming it into films (thickness: 0. 02-0. 15 mm. pref. 0. 04-0. 08 mm).

Though the fixed enzymes can be used as they are, generally they are mechanically weak and enzymes are eluted relatively easily from them. So it is pref. to gel the films by immersing them in aldehyde soln. (e.g., formaldehyde, glutaraldehyde, etc.) washing them with water and drying them.

Fibroin shows strong enzyme retaining properties and the enzymes are hardly eluted in use and keep high activity for long time, e.g., enzymic activity is hardly decreased after six months in a refrigerator and a month at room temp. 15. 10. 75 as 123975. C07g-7/02, C12d-13/10 (10, 9. 79) AGENCY OF IND SCI TECH (3pp5)(J52057392)

KAYA D16 19294Y/11 =J7 9027-440
Antibiotic NaK:73A prodn. by cultivation of Streptomyces NaKW:75 - under aerobic conditions in medium contg. carbon and nitrogen sources and inorganic salts
KAYAKU ANTIBIOTIC RES 23.07.75-JA-089845
*B04 (10.09.79) *J52015-895 C07g-11 C12d-09/14 +A61k-35/74*

The microorganism is cultured in a nutrient medium contg. C sources (e.g. glucose, glycerin, galactose, xylose, maltose, starch), N sources (e.g. soybean meal, peptone, meat extract, corn steep liquor, cotton seed flour, peanut flour, malt extract, yeast extract, nitrates, ammonium salts) and inorganic salts (e.g. chlorides, nitrates and phosphates of alkali (ne earth) metals, Mg, Co, Zn, and Mn) (pH 5. 5-8. 0) at 25-35°C for 24-96 hours. The antibiotic NaK-73A is a basic substance (pHa=9. 5) soluble in methanol, acetone, water, ethanol, ethyl, acetate and benzene and insoluble in petroleum ether and hexane, having a molecular formula of $C_{24}H_29NO8.H_2O$.

The minimum inhibitory concns. of the antibiotic are 0. 2-0. 8 mcg/ml against Staphylococcus aureus 209P, FS 3271, FS 3839, FS3891 FS3904 and FS 3877, Staphylococus epidermidis IFO 3762, Sarcina lutea PCI 1001, Bacillus cereus IF 03001 and Bacillus substilis PC1291 and 6-100 mcg/ml against certain strains of Escherichia, Aerobacter, Serratia, Proteus, Shigella, Salmonella and Xanthomonas. Its LD_{50} value in mice is 8. 8mg/kg intravenously and 620 mg/kg orally. 23. 7. 75 as 089845 C12d-9/14, A61k-35/74, C07g-11/00 (10. 9. 79)KAYAKU ANTIBIOT RES (6pp)(J52015895)

BRIU D16 68009W/41 =J7 9027-896
Brevibacterium cells prodn. - in medium contg. gaseous hydrocarbons
BRIDGESTONE LIQUEF GAS (BRID) 01.11.73-JA-122194
*H04 (12.09.79) *J50070-581 +C12k-03*

Brevibacterium BN-3408A was grown in a gaseous hydrocarbon medium. In an example, the microbe was cultured KH_2OP_4 1. 0, Na_2HPO_4 0. 5, and $MgSO_4$. $7H_2O$ 0. 4 g. plus $FeSO_4$ $7H_2O$ 10, $MnSO_4$. nH_2O 2. 0, $CaCl_2$. $2H_2O$ 10, $CoCl_2$.- $6H_2O$ 11. 9, $CuSO_4$. $5H_2O$ 0. 241, $ZnSO_4$. $7H_2O$ 2. 41, and H_3BO_3 1. 0 mg. in 1.1., with addn. of a mixt. of C_3H8 and air (1:4), Growth rate (μ) was 0. 116/ hr. Cell yield was 98 and 41 wt. % against C_3H8 and O_2, resp. Protein content was 70. 0 wt. % 1. 11. 73 as 122194 C12k-3/00 (12. 9. 79) BRIDGESTONE GAS (4pp)(J50070581)

MITN D16 02970Y/02 =J7 9027-898
Protein prodn. having low viscosity and good white colour - by heating an aq. soln. of bacteria or yeast cells, adding hydrogen peroxide, further heating, and adjusting pH
MITSUBISHI GAS CHEM IND 19.05.75-JA-058655
*F09 (12.09.79) *J51136-887 C12d-13/06 D21h-01/22*

The aq. soln. contg. bacteria or yeast cells is heated at 60-100°C for 15 mins. -4hrs. under pH 2-5. To the obtd. soln, 1-10% (based on dry cell) of H_2O_2 peroxide is added, and the pH of the soln. is adjusted to 10. 5-13. 5. The soln. is heated at 55-85°C for 1-4 hrs. The pH is adjusted to 3-5. The protein compsn. is recovered from the soln. as ppte. The protein is obtd. by washing the protein compsn. with water.

The employed bacteria or yeast is prepd. by cultivating bacteria or yeast in a culture medium contg. methanol or ethanol as carbon source. The obtd. protein has the same properties as known binder (casein), and is used as a binder in a coating agent for paper.
19. 5. 75 as 058655 C12d-13/06, D21h-1/22(12. 9. 79)
MITSUBISHI GAS CHEM IND (4pp)(J51136887)

KURE D16 67789A/38 =J7 9027-899
Antitumour polysaccharide prodn. - by artificial culture of Poria sp. and extn. of the mycelia with aq. solvent
KUREHA CHEM IND KK 29 01.77-JA-008233
*B04 (12.09.79) *J53094-013 A61k-35/84 C07g-11 C12d-09/04*

Poria sp. is artificially cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide of a mol. wt. ≮ 5, 000 and being positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, trytophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

In an example, Poria sp. CM-411 (FERM-P 1040) has cultured in a medium consisting of peptone (3g.), yeast extract (5g.) malt extract (10. g.), glucose (20. g), KH_2PO_4 (0. 1g.), K_2HPO_4 (0.1. g) $MgSO_4$ (0. 05g.) and water (1 l.) at 25°C for 168 hrs. with shaking. The mycelia was collected, washed with water and dried.

The dried mycelia was combined with 0. 4N NaOH and the mixt. was stirred at 90-95 °C for 2 hrs. The mixt. was neutralised with 2N HCl to pH 7. 0 and filtered. The extract was concd. and dialysed against running water for 6 days. The residual fluid is lyophilised to provide the polysaccharide. 29. 1. 77 as 008233 C12d-9/04, C07g-11/00 A61k-35/84 (12. 9. 79) KUREHA CHEM IND KK (6pp) (J53094013)

KURE D16 67790A/38 = J7 9027-900
Antitumour polysaccharide - produced by culture of Irpex species organism and extracting mycelia with aq. solvent
KUREHA CHEM IND KK 29.01.77-JA-008234
*B04 (12.09.79) *J53094-014 A61k-35/84 C07g-11 C12d-09/04*

Irpex sp. is artificially cultured and the mycelia are extd. with an aq. solvent to provide a polysaccharide having a mol. wt. $\geqslant$5, 000 and being positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, tryptophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

In an example, Irpex sp. CM-416 (FERM-P 3041) is cultured in a medium consisting of peptone (3 g.), yeast extract (5 g.), male extract (10 g.) glucose (20 g.), KH_2PO_4 (0. 1g.) K_2HPO_4 (0. 1 g.) magnesium sulphate (0. 05 g.) and water (1 l.) at 25°C for 168 hrs. with shaking at 200 rpm. The mycelia are collected, washed with distilled water and dried. The dried mycelia are combined with 0. 4 N NaOH soln. (2 l.) and the mixt. stirred at 90-95°C for 2 hrs.

Then, the mixt. is neutralised with 2N HCl to pH 7. 0 and subjected to centrifugation. The same extn. procedures are repeated 4 times in total. The extract is concd. to 2 l. and dialysed against running water for 6 days. The residual fluid is concd. and lyophilised to provide the polyaccharide. 29. 1. 77 as 008234 C12d-9/04 C07g-11/00 A61k-35 /84 (12. 9. 79) KUREHA CHEM IND KK (6pp) (J53094014)

KURE D16 67791A/38 = J7 9027-901
Antitumour polysaccharide prodn. - by artificially culturing Oxyporus sp. and extracting mycelia with aq. solvent
KUREHA CHEM IND KK 29.01.77-JA-008235
*B04 (12.09.79) *J53094-015 A61k-35/84 C07g-11 C12d-09/04*

Oxyporus sp. is artificially cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide having a mol. wt. $\geqslant$5, 000 and being positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, tryptophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

Typically, Oxyporus sp. CM-351 (FERM-P 3036) is used. 29.1. 77 as 008235 C12d-9/04, A61k-35/84, C07g-11/00 (12-9-79) KUREHA CHEM IND KK (5pp)(J53094015)

KURE D16 67792A/38 = J7 9027-902
Antitumour polysaccharide prodn. - by artificially culturing Hirschioporus sp. and extracting the mycelia with an aq. solvent
KUREHA CHEM IND KK 29.01.77-JA-008236
*B04 (12.09.79) *J53094-016 A61k-35/84 C07g-11 C12d-09/04*

Hirschioporus sp. is artificially cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide having a mol. wt. $\geqslant$5, 000 and being positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, tryptophane-sulphuric acid and, hydrolysis, ninhydrin reactions.

Typically, Hirschioporus sp. CM-191 (FERM-P 3031) is used. 29. 1. 77 as 008236 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (5pp) (J53094016)

KURE D16 67793A/38 = J7 9027-903
Fermentative prodn. of antitumour polysaccharide - by culturing Tyromyces species and extn. of mycelia
KUREHA CHEM IND KK 29.01.77-JA-008237
*B04 (12.09.79) *J53094-017 A61k-35/84 C07g-11 C12d-09/04*

Tyromyces sp. is cultured artificially and the mycelia are extracted with an aq. solvent to provide a polysaccharide having a molecular wt. $\geqslant$5, 000 and positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, typtophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

Used as an antitumour agent. 29. 1. 77 as 008237 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094017)

KURE D16 67794A/38 = J7 9027-904
Fermentative prodn. of antitumour polysaccharide - by culturing Laetiporus species and extracting the mycelia
KUREHA CHEM IND KK 29.01.77-JA-008238
*B04 (12.09.79) *J53094-018 A61k-35/84 C07g-11 C12d-09/04*

Laetiporus sp. is artifically cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide having mol. wt. $\geqslant$ 5, 000 which is positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuic acid, tryptophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

Used as an antitumour agent. 29. 1. 77 as 008238 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094018)

KURE D16 67795A/38 = J7 9027-905
Fermentative prodn. of antitumour polysaccharide - by culturing Porodisculus species and extracting the mycelia
KUREHA CHEM IND KK 29.01.77-JA-008239
*B04 (12.09.79) *J53094-019 A61k-35/84 C07g-11 C12d-09/04*

Porodisculus sp. is artificially cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide having a mol. wt. $\geqslant$5, 000 which is positive to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, tryptophane-sulphuric acid and, after hydrolysis, ninhydrin reactions.

Used as antitumour agent. 29. 1. 77 as 008239 C12d-9/04, A61k-35/85 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094019)

KURE D16 67796A/38 = J7 9027-906
Antitumour polysaccharide prodn. - by culture of Rigidoporus and extn. of mycelia with aq. solvent
KUREHA CHEM IND KK 29.01.77-JA-008240
*B04 (12.09.79) *J53094-020 C07g-11 C12d-09/04 +A61k-35/84*

Rigidoporus sp. is artificially cultured and the mycelia are extracted with an aq. solvent to provide a polysaccharide (I) having a molecular wt. $\geqslant$ 5, 000. (I) gives positive reactions to α-naphthol-sulphuric acid, phenol-sulphuric acid, indole-sulphuric acid, anthrone-sulphuric acid, tryptophane-sulphuric acid and, after hydrolysis, ninhydrin.

In an example, Rigidoporus sp. CM-306 (FERM-P 3035) is cultured in a medium consisting of peptone (3g.), yeast extract (5 g.), malt extract (10 g.), glucose (20 g.), potassium dihydrogen phosphate (0. 1 g.), dipotassium hydrogen phosphate (0. 1 g.), magnesium sulphate (0. 05 g.) and water (1 l.) at 25°C for 168 hrs. with shaking at 200 rpm. The mycelia are collected, washed with distilled water and dried. The dried mycelia (100 g.), are combined with 0. 4N NaOH soln. (2 l.) and the mixt. is stirred at 90-95°C for 2 hrs. Then, the mixt. is neutralised with 2N HCl to pH 7. 0 and subjected to centrifugation. 29. 1. 77 as 008240 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094020)

KURE D16 67797A/38 = J7 9027-907
Antitumour polysaccharide prodn. - by culture of fungus Cryptoporus and extn. of mycelia with aq. solvent
KUREHA CHEM IND KK 29.01.77-JA-008241
*B04 (12.09.79) *J53094-021 A61k-35/84 C07g-11 C12d-09/04*

The mycelium produced by artificial culture of a fungus Cryptoporus is extracted with an aq. solvent, and removal of low molecular cpds. of molecular wt. $\geqslant$5, 000 from the extract gives an antitumour polysaccharide (I) which after HCl-hydrolysis is positive to colour tests such as α-naphthol-H_2SO_4 reaction (violet), phenol-H_2SO_4 (brown), indole-H_2SO_4 (brown), anthrone-H_2SO_4 (greenish blue), tryptophan-H_2SO_4 (violet brown), Lowry-Folin (blue) and ninhydrin reaction (violet blue).

Specifically the fungus is Cryptoporus volvatus CM-401, FERM-P 3039) (Polyporaceae, Hymenomycetales, Basidomycetes) which is cultured on a medium contg.

carbon source, nitrogen source, minerals and vitamins at pH 2-7, pref. pH 4-5, at 20-35°C, pref. 25-30°C, for 2-30 days under aeration (0. 1-2. 01/1. /min.) and agitation (30-800 rpm). The resulting mycelium is cut into small pieces and extracted with water or a water miscible organic solvent (e. g., MeOH, EtOH, i-PrOH) contg. <10% acid (e. g., HCl) or base (e. g. NaOH) at 50-100°C, pref. 80-98°C, for 20 mins. -20 hrs.

(I) is an orally administrable antitumour substance, of which the growth inhibition rate against tumours is 80% (mouse; Sarcoma 180). LD_{50} is >1300 (mouse; intravenous), >500 (subcutaneous), >20000 (oral). 29. 1. 77 as 008241 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094021)

KURE D16 67798A/38 = J7 9027-908

Antitumour polysaccharide prodn. - by culture of fungus Onnia and extn. of mycelia with aq. solvent

KUREHA CHEM IND KK 29.01.77-JA-008242

*B04 (12.09.79) *J53094-022 A61k-35/84 C07g-11 C12d-09/04*

The mycelium produced by artifical culture of a fungus Onnia is extracted with an aq. solvent, and removal of low molecular cpds. of mol. wt. ≥ 5, 000 from the extract gives an antitumour polysaccharide (I) which after HCl-hydrolysis is positive to colour tests such as α-naphthol-H_2SO_4 reaction (violet), phenol-H_2SO_4 (brown), indole-H_2SO_4 (brown) anthrone-H_2SO_4 (greenish blue), tyrptophan-H_2SO_4 (violet brown), Lowry-Folin (blue) and ninhydrin reaction (violet blue).

Specifically the fungus is Onnia orientalis CM-456, FERM-P 3042 (Aphyllophorales, Mucronoporeae, Onnia) which is cultured on a medium contg. carbon source, nitrogen source, minerals and vitamins at pH 2-7, pref. pH 4-5, at 20-30°C, pref. 25-30°C, for 2-30 days under aeration (0. 1-2. 0l. /1. /min). and agitation (30-800 rpm). The resulting mycelium is cut into small pieces and extracted with water or a water miscible organic solvent (e. g., MeOH, EtOH, i-PrOH) contg. < 10% acid (e. g., HCl) or base (e. g. NaOH) at 50-100°C, Pref. 80-98°C, for 20 mins. - 20 hrs.

(I) is an orally administrable antitumour substance, of which the growth inhibition rate against tumours is 80% (mouse; Sarcoma 180). LD_{50} = >1300 (mouse; intravenous), >5000 (subcutaneous), >2000(oral). 29. 1. 77 as 008242 C12d-9/04, C07g-11/00 A61k-35/84 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094022)

KURE D16 67799A/38 = J7 9027-909

Antitumour polysaccharide prodn. - by extracting mycelium produced by cultivating Fuscoporia fungus with aq. solvent

KUREHA CHEM IND KK 29.01.77-JA-008243

*B04 (12.09.79) *J53094-023 A61k-35/84 C07g-11 C12d-09/04*

The mycelium produced by artificial culture of the fungus Fuscoporia is extracted with aq. solvent, and low molecular cpds. of molecular wt. >5000 are removed from the extract to give an antitumour polysaccharide (I) which after HCl-hydrolysis is positive to colour tests such as α-naphthol-H_2SO_4 reaction (violet), phenol-H_2SO_4 (brown), indole-H_2SO_4 (brown), anthrone-H_2SO_4(greenish blue). tryptophan-H_2SO_4 (violet brown), Lowry-Folin (blue) and ninydrin reaction (violet blue).

Pref. the fungus is Fuscoporia obliqua CM-457, FERM-P 3043 (fuscoporia, Mucronoporeae, Aphyllophorales) which is cultured aerobically on a medium contg. carbon source, nitrogen source, minerals and vitamins at pH 2-7, pref. 4-5, at 20-35°C, pref. 25-30°C, for 2-30 days under aeration (0. 1-2. 0 l. /l. /min.) and agitation (30-800 rpm).

(I) is an orally administrable antitumour substance and its growth inhibition rate against tumours is 80% (mouse; Sacroma 180). LD_{50}>1300 (mouse%intravenous), >500(subcutaneous), >2000 (oral). 29. 1. 77 as 008243 C12d-9/04 C07g-11/00, A61k-35/84 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53094023)

KURE D16 78909A/44 = J7 9027-910

Antitumour polysaccharide prodn from Inonotus fungi - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008244

*B04 (12.09.79) *J53109-913 A61k-35/84 C07g-11 C12d-09/04*

Prodn. of an antitumour polysaccharide from Inonotus fungi comprises extracting the mycelia of the fungi obtd. by artificial culture, and eliminating low molecular components of mol. wt. <5000 from the extract. The resulting polysaccharide gives positive colour reactions with α-naphthol-H_2SO_4, anthrone-H_2SO_4, tryptophan-H_2SO_4, Lowry-Folin reaction, and ninhydrin reaction after HCl-hydrolysis.

The polysaccharide exhibits potent antitumour activity on peritoneal or oral admin. to mice (Sarcoma 180). It also exhibits liver function improving action, antidiarrhoeal action and diuretic action. Also effective in recovery of immunity, prevention of adverse reactions caused by chemotherapy, and enchancement of susceptibility to irradiation. The mycelia can be produced by culture of a part of a plant to which the fungi adhere, or the fruiting body tissue or the spores on a liq. medium contg. the necessary nutrients.

In an example, a liq. medium (pH 6. 5) consisting of 3g peptone, 5g yeast extract, 10g malt extract, 20g glucose 0. 1g KH_2PO_4, 0. 1g K_2HPO_4, 0. 05g $MgSO_4$ and 1 l water was used to culture the mycelia of Inonotus cuticularies. 29. 1. 71 as 008244 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp) (J53109913)

KURE D16 78910A/44 = J7 9027-911

Antitumour polysaccharide prodn. from Ramaria botrytis - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008245

*B04 (12.09.79) *J53109-914 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9027910 but using Ramaria botrytis in place of Inonotus. 29. 1. 77 as 008245 C12d-9/04, A61k-35/84 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53109914)

KURE D16 78911A/44 = J7 9027-912

Antitumour polysaccharide prodn. from Fistulina hepatica - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008246

*B04 (12.09.79) *J53109-915 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9027910 but using Fistulina hepatica in place of Inonotus. 29. 1. 77 as 008246 C12d-9/04, A61k-35/84, C07g-11/00 (12. 9. 79) KUREHA CHEM IND KK (6pp)(J53109915)

KURE D16 78912A/44 = J7 9027-913

Antitumour polysaccharide prodn. from Tremellodon gelatinosum - by extracting cultured mycelia and removing low molecular components from the extracts

KUREHA CHEM IND KK 29.01.77-JA-008247

*B04 (12.09.79) *J53109-916 A61k-35/84 C07g-11 C12d-09/04*

KURE D16 78913A/44 = J7 9027-914

Antitumour polysaccharide prodn. from Protodaedalea - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008248

*B04 (12.09.79) *J53109-917 A61k-35/84 C07g-11 C12d-09/04*

KURE D16 78914A/44 = J7 9027-915

Antitumour polysaccharide prodn.from Clitocybe infundibuliformis - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008249

*B04 (12.09.79) *J53109-918 A61k-35/84 C07g-11 C12d-09/04*

KURE D16 78915A/44 = J7 9027-916

Antitumour polysaccharide prodn. from Depista nuda - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008250

*B04 (12.09.79) *J53109-919 A61k-35/84 C07g-11 C12d-09/04*

URE D16 78916A/44 = J7 9027-917
ntitumour polysaccharide prodn. from Flammulina velutipes - by xtracting cultured mycelia and removing low molecular omponents from the extract
KUREHA CHEM IND KK 29.01.77-JA-008251
*B04 (12.09.79) *J53109-920 A61k-35/84 C07g-11 C12d-09/04*

URE D16 78917A/44 = J7 9027-918
ntitumour polysaccharide prodn. from Mycena galericulata - by xtracting cultured mycelia and removing low molecular omponents from the extract
KUREHA CHEM IND KK 29.01.77-JA-008252
*B04 (12.09.79) *J53109-921 A61k-35/84 C07g-11 C12d-09/04*

WAGB ★ D16 B/40 ★OE 7802-029
Sepg. gas phase from circulating liquid
WAAGNER BIRO AG 22.03.78-OE-002029
(15.09.79) C12b-01/18

MOON= ★ D16 73065B/40 ★SU -589-987
Desensitisation of organisms to tumour formation - by parenteral administration of purified tuberculin prepn. used in medicine
MOSC ONCOLOGY RES 03.04.74-SU-017017
B04 (18.05.79) A61k-37/04

The resistance of an organism to tumour formation is increased by parenteral administration of a microbic prepn.

Specific organism desensitisation is secured by employing dried, purified tuberculin, used in dosages which do not induce skin reaction.

Volegov, A.I., Bul. 18/15.5.79. 3.4.74. as 017017 (2pp835)

AJIN D16 71845Y/40 = SU -638-268
L-Lysine prepn. - by culturing Corynebacterium or Brevibacterium resistant to amino-lauryl-lactam, (N)-carbobenzoxy lysine and/or methyl-lysine
AJINOMOTO KK 20.02.76-JA-017518
*B05 E16 (22.01.79) *J52102-498 C12d-13/06*

Process comprises culturing a variety of Corynebacterium or Brevibacterium, which has resistance of α-aminolauryllactam (ALL), γ-methyllysine (ML) or N-carbobenzoxylysine (CBL) and a producibility for L-lysine, and recovering accumulated L-lysine from the cultured soln.

L-lysine is prepd. with a high yield and a high availability of carbon sources. Suitable bacteria include B. lactofermentum AJ 3985(FERM-P 3382) and B. lactofermentum AJ 3986 (FERM-P 3383)both CBL resistant.

Tosaka, O., Morioka, Bul. 46/15.12.78. 18.2.77. as 453252 (4pp)

YUZH= ★ D16 73109B/40 ★SU -639-926
Microbial culture growth unit - has parallelepiped tank with central and two peripheral chambers contg. transverse heat-exchange plates
YUZHGIPROBIOSINTEZ 27.12.76-SU-435533
(22.02.79) C12b-01/10

The microorganisms culture growing is accelerated using unit comprising the parallelepiped shape tank divided into three chambers by longitudinal partitions. The covered central chamber is fitted with an aerator and culture medium disperser, while the peripheral chambers are sepd. into transverse sections by heat exchanging plates.

The aerators and fluid dispersers are set in the sections, and a collector of biomass concentration is mounted above the central chamber with connection to the latter. The nutrient is fed to the central chamber and overflows to the sections of the peripheral chambers. The culture fluid jets out by ejectors into the top of peripheral chambers where the aerial suspension changes its direction due to foam breakers and deflectors.

Ermolaev, O.V. Kalishevich, I.V. Kalyagin, A.A. Bul. 48/30.12.78. 27.12.76. as 435533 (4pp89)

BEKI ★ D16 73110B/40 ★SU -639-927
Microorganisms culture growth unit - has partitions with contacting perforated discs pairs attached to shaft and tank to increase aeration
BELORUSS KIROV TECHN INS 21.03.77-SU-465504
(22.02.79) C12b-01/10

Intensified mass exchange between air and culture fluid in the unit for microorganisms growing improves the efficiency. The partitions are made up of discs contacting each other with one attached to the drive shaft while the other one is fixed to the tank wall. The perforations of the discs are aligned allowing bubbling air to pass.

Vezhbitskii, L.L., Prudnikov, F.V. Vaitekhovich, P E. Bul. 48/30.12.78. 21.3.77. as 465504 (4pp89)

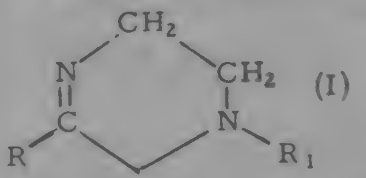
SHES/ ★ D16 73111B/40 ★SU -639-928
Microorganisms culture growth unit - has foam breaker using two top conical trays with peripheral labyrinth seal to prevent fouling
SHESTERENKO A F 17.12.75-SU-300611
(22.02.79) B01d-19/02 C12b-01/18

The fouling of the unit by microflora is prevented by the additional conical tray above the top tray. The wide base of the additional tray is facing down, and the periphery of both top trays having a labyrinth seal. The blades of the top tray form a turbine for driving by compressed air fed from a nozzle.

Shesterenko, A.F. Shesterenko, N.A. Bul. 48/30.12.78. 17.12.75. as 300611 (3pp89)

MOSU ★ D16 73112B/40 ★SU -639-936
Non-sporulating bacteria culturing - using nutrient contg. imidazoline quaternary ammonium salt as growth stimulating agent
MOSCOW LOMONOSOV UNIV 15.03.76-SU-333422
E13 (22.02.76) C12b-03/14 C12k-01

A quaternary ammonium salt of imidazoline of formula (I)



where R is a 15-17C chain and R_1 is 3C - alkylol, is used as a growth stimulant for non spore bacteria. Optimum amts. are 20-100 mg./l. of medium.

Kozlova, E.I., Trifonova, T.V., Arkadeva, Z.A. et al. Bul. 48/30.12.78. 15.3.76. as 333422 (3pp314)

BIOC= ★ D16 73113B/40 ★SU -639-937
Air microbial contamination tester - uses sterile air purging before and after admission of contaminated air into microbial filter chamber
BIOCHEM RES INST 13.05.77-SU-487223
(22.02.79) C12k-01

The determination of microbiological contamination air is improved and the results become compatible using different impactors by preliminary feed of sterile air. The purge is followed by feeding the required volume of air to be analysed and passing again sterile air volume exceeding the inner volume of the impactor.

The unit has an auxiliary channel for sterile air, and comprising a filter and a movable flap for sequential control of flow in the channels.

Flerov, Yu.L., Andreev, E.F., Safiulin, A.A. et al. Bul. 48/30.12.78. 13.5.77. as 487223 (3pp89)

MICR= ★ D16 73186B/40 ★SU -640-988
Leguminous plants bacterial fertiliser - contg. Rhizobium lupin bacterial strain as active symbiotic nitrogen fixer
MICROBIOL VIROLOGY 13.05.77-SU-508855
C03 (10.01.79) C05f-11/08

The bacterial strain Rhizobium lupin; 371a has a bacillic form measuring 5-7 x 0.6μ and is mobile. Cultures are slow growing. An agar the colonies are whitish, fine and compact with uniform edges. Growth is good on a yeast extract contg. tyrosine. No Gram colouring occurs and no spores are formed. No growth occurs in meat-peptone media or on potato.

Kantselyaruk, R.M., Skochinskaya, N.N., Dolgopolova, T.T. et al. Bul. 1/5.1.79. 13.5.77. as 508855 (2pp314)

UAGR= ★ D16 73187B/40 ★SU -640-989
Leguminous plant e.g. soya, bacterial fertiliser - contg. Rhizobium japonicum bacterial strain as high-activity nitrogen-fixing agent
UKR AGRIC RES INST 20.06.77-SU-517701
C03 (08.01.79) C05f-11/08

The strain, Rhisobium japonicum 614a, is non-sporing and Gram-negative. The cells are mobile and have dimensions 2-5 x 0.7μ. Cultures are slow-growing; on an agarised yeast/glucose/salt medium, 6-8 day colonies are while, fine and lustrous with uniform rims. tyrosine and ammonium molybdate in the medium enhances the

growth rate. No growth occurs on meat-peptone or potato media.
Dubovenko, E.K., Malinskaya, S.M., Chechelnitskaya, L.N. et al. Bul. 1/5.1.79. 20.6.77. as 517701 (2pp314)

SAFA- D16 69000W/42 =SU-641-871
Humus fertilizer from organic waste - prepd. by adjustment of moisture content, shredding, spinning, breakage and drying of the fibres to give granules
SAF SOC AGRIC FONCI 13.11.74-CH-015121
*C04 +P41 (08.01.79) *BE-829-116 C05f-03*

Transformation of organic waste to give granules comprises first adjusting the moisture content to 45-60 % (pref. 50-55%) then the waste is homogenised, shredded spun and the obtd. fibres dried under physical constraints to form granules by breaking of the fibres without cutting compression or use of a granulation apparatus.

The appts. contains provision for storing and mixing the organic waste, an expansion chamber for recovery of calories of residual gas allowing pre-drying of the organic waste and removal of dry dusts carried by this gas, a pre-drying oven, means for disintegrating, grinding, regulated feeding, shredding of the feed and spinning, an evaporation bed having a perforated, vibrating base through which hot gas are introduced and a silo for storage of the product. Humus fertilizer is produced by an economic method and is free from odours, etc.
Imof, H. Bul. 1/5.1.79. 13.11.75. as 189608 (4pp)

KANF ★ D16 73301B/40 ★SU-641-874
Microbiological prodn. of L-lysine - using specified Nocardia alkanoglutinousa strain producer for high yield
KANEGAFUCHI CHEM KK 22.10.75-JA-127817 (17.10.75-JA-125789)
B05 E16 (08.01.79) C12d-13/06

L-lysine is obtd. in better yields by culturing Nocardia alkanoglutinousa strains nos. 223-59 (ATCC 31220) and 223-15 (ATCC 31221) which are stable towards S-(2-aminoethyl)-L-cystine.

Cultivation is carried out under aeration in a nutrient medium contg. a C source, pref. selected from: an animal oil or fat; a vegetable oil; a fatty acid; ethanol, glucose or fructose, starch or the hydrolysis prod. of molasses or starch; acetic or citric acid; a 14-19C n-alkane; kerosene; and crude oil contg. an n-alkane. The nutrient medium also contains an N source and necessary nutrient salts.
Tanaka, T., Nakamura, E., Asaki, K. et al. Bul. 1/5.1.79. 15.10.76. as 410957 (5pp314)

MAIZ= ★ D16 73304B/40 ★SU-641-927
Determining resistance of maize to stalk moth - by observing inhibiting effect of antibiotic extracted from maize leaves on growth of Staphylococcus aureus culture
MAIZE RES INST 15.08.77-SU-516361
C03 P13 (18.01.79) A01h-01/04

Resistance of maize against stalk moth is determined by preparing an alcoholic extract of comminuted maize leaves and placing 4 drops of the extract into a small recession (dia. 14 min.) in a meat-peptone agar preparation inoculated with Staphylococcus aureus 209.

The antibiotic contained in the maize extract inhibits the growth of the Staphylococcus aureus around the recession. The strength of this action is determined by measuring the diameter of the sterilised area. This antibiotic acts also against the stalk moth. This method is much simpler and more accurate than the methods used for this purpose heretofore.
Susidko, P.I., Fedko, I.A., Kovalev, A.M. Bul. 2/15.1.79. 15.8.77. as 516361 (2pp70

DNAG= ★ D16 73381B/40 ★SU-642-279
Fertiliser prodn. from aq. effluent sediment and household waste - includes sepn. of unwanted material and thermal treatment prior to blending and composting, used in agriculture
DNEPR AGRIC INST 11.05.76-SU-361885
C04 (15.01.79) C05f-09/02

Fertilisers are produced from effluent sediments and household refuses by removing unwanted matter from the refuses, comminuting them, mixing with the sediments and composting the mixt. The household waste is held at 55-70°C with heat produced by self-fermentation pr cess followed by mixing with the effluent sediments. B this method the composting process is accelerated.
Yarchuk, I.I., Aizykovich, L.E., Aizykovich, I.L. B 2/15.1.79. 11.5.76. as 361885 (1pp70)

KISA- ★ D16 73388B/40 ★SW 7712
Recovery of biologically generated energy from pile of org fibre - by pumping air at individually controlled rates along mul paths within pile, and recirculating air through heat exchanger
KISA TRA AB 15.11.77-SW-012869
F09 (18.06.79) D21c-01

INNO- ★ D16 B/40 ★SW 7801
Fertiliser pellets mfr. from mixt. of slurry and waste material homogenising, pelletising and subjecting to airflow for compo and drying
INST INNOVATIONSTEK 16.02.78-SW-001789
C04 (17.09.79) C05f-07 C05f-09/04

A mixture of slurry and waste is homogenised and mad into pellets, which are fed into appts. for composting drying.

This appts. is enclosed but has an air-permeable fl Air flows through the floor and through the pellet layer until composting is complete. Then drying air is admit to the appts. before the pellets are removed. 16.2.78 001789 (-pp1407)

ZUBL- D16 10575A/06 #US 4168
Rotating drum for refuse treatment - having at least a conc lining
ZUBLIN E AG 30.07.76-DT-634220 (27.07.77-US-819250)
*J04 P41 (25.09.79) *DT2634-220 B01f-09/06*

Waste is upgraded in a rotary drum which has a cylind cal mantle supported on its outer wall by bearings, the mantle is of concrete, and has pipe lines embedded in the mantle which extend parallel to the longitudinal axi and has pipe sections rigged together in the axial direc ion.

Pref. some of the pipe sections have a wall thickne greater than the remainder of the mantle and have bone for clamps to rig the sections together. The mantle pr includes reinforcing steel inserts. 27.7.77 as 819250 (6pp1376)

PHIP D16 63251A/35 =US 4169
Aerobic fermentation to produce single cell protein - fermentation section and contiguous upper absorber section
PHILLIPS PETROLEUM CO 18.11.76-US-742817 (11.04.78 895337)
*(D13) (25.09.79) *US4097-339 C12b-01*

The prodn. and sepn. of single cell protein by continu aerobic fermentation of microorganism employs appts with means for improved oxygen absorption. At least water-soluble oxygenated hydrocarbon as C energy su strate is fermented in aq. conditions with $\geqslant 1$ oxygen hydrocarbon metabolising microorganism, employing O_2, assimilable N source and aq. nutrient medium.

The ferment is withdrawn, cellular material is sep and the resulting lean fermentation liq. is cooled and recycled to gas contact zone. Make-up water and nut other than oxygenated hydrocarbon are fed to contact O_2 is passed through the fermentation section and dis ged into a foam breaking zone of a contiguous absor section, and the partially O-depleted gases are passe into gas contact zone.

These gases are contacted and counter currently w the make-up water and nutrient and lean fermentation thereby forming an O-augmented mixed make-up liq. liq. is passed through the foam breaking zone into th fermentation section and a single cell protein prod. i covered.

A high O_2-transfer rate is described. The parent ent describes the appts. 11.3.78 as 895337 Div. ex. 4097339 (5pp964)

ALKU D16 23355A/13 =US 41
Peroxidase compsns. stabilised with poly-valent metal ions ferrous salts
AKZO NV 24.09.76-NL-010608
*B04 + R16 (25.09.79) *BE-859-007 C07g-07 G01n-31/14*

reagent for the determn. of a component of the antigen-ntibody reaction comprises (a) one member selected from n antigen or antibody capable of reacting with the antigen; nd (b) the other member of (a) covalently linked to the eroxidase present in a freeze-dried compsn. comprising i) a peroxidase; and (ii) ≥ 1 polyvalent metal ion selected from Mg, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga and Al, present in an amt. of ≥ 0.001M.

The peroxidase compsns. are stable and useful in enzyme immunoassay tests, esp. for haptens. The metal ions confer the increased stability. 9. 9. 77 as 831817 (3pp997)

CORP ★ D16 73481B/40 ★US 4169-013
Glucoamylase prepn. - by culture of suitable organisms on media contg. ground corn liquefied by heat and alpha-amylase
CPC INTERNATIONAL INC 28.07.76-US-709148 (05.12.74-US-529879)
(D17) (25.09.79) C12n-09/34

The known prepn. of glucoamylase (I) by the culture of a (I)-producing organism on a pre-sterilised nutrient medium with aeration, and (as a final development stage) the inoculation of the seed stage of the (I)-producing organism onto a pre-sterilised fermentation medium contg. a carbohydrate C source (enzymatically liquefied ground corn) and an N source and the subsequent culture of this fermentation medium is improved by using a sterile fermentation medium.

This medium is prepd. as follows (a) a medium is prepd. by mixing ground corn (prim. C source), a prim. N source and H_2O at 20-60; (b) the medium is heated with steam to 55-80°/pH 4.5-7.5 in the presence of a bacterial α-amylase prepn. (from a Bacillus licheniformis; added before or during heating) until all the ground corn is liquefied; (c) the medium is terilised with steam at $\nless$ 100°C; (d) the medium is then cooled and is suitable for inoculation with the seed stage of the (I)-producing organism. In step (d), the liquefied corn has solids content 16-25% by wt. (dry basis).

The economical process may be carried out in aq. media at relatively high concns., and allows the use of increased levels of liquefied ground corn without the known corresp. increase in viscosity. The time needed to reach sterilisation temp. is also decreased. 28. 7. 76 as 709148 (7pp478)

AMER ★ D16 73482B/40 ★US 4169-014
Immobilising proteinaceous substances, esp. enzymes - on microporous member comprising resinous binder throughout which filler particles are dispersed
AMERACE CORP 03.04.78-US-893009 (29.08.75-US-609077)
A97 (D17) (25.09.79) C07g-07/02

Proteinaceous substances are immobilised using an insol. microporous member (I) having a pair of opposed surfaces and a predetermined thickness and comprising a resinous binder having filler particles dispersed throughout it and a network of interconnected pores formed between the particles and the binder and between adjacent filler particles, the filler particles constituting ≥ 25 wt. % of (I) and the pores being 0.01-100 μ in size (determined porosimetrically by the Mercury Intrusion Method).

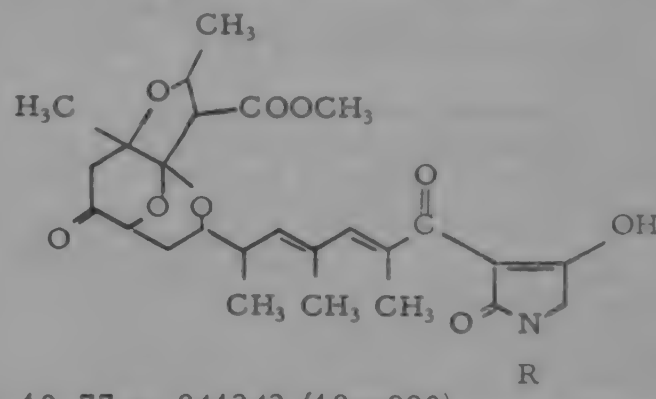
A proteinaceous substance is bound to the surface of at least some of the filler particles, and (I) is pervious to the flow of a fluid through ≥ 1 of the surfaces so that at least some of the proteinaceous-substance-bound filler particles contact the fluid. Enzymes coupled to (I) (which is non-biodegradable and resistant to chemical attack)have a relatively high reaction efficiency when used to act on a substrate.

The parent patent (79780A/44) claimed the immobilised protein materials. 3. 4. 78 as 893009 Div. ex. 4102746 (+16. 8. 76-US-714291) (11pp990)

BRIM D16 09321B/05 =US 4169-096
Antibiotics Bu-2313A and Bu-2313B - obtd. by culturing Micropolyspora caesia ATCC 31295-8
BRISTOL MYERS CO 11.10.77-US-841242 (13.07.77-US-815329)
*B02 (25.09.79) *NL7807-570 C07d-207/12*

Antibiotic cpds. of formula (I) (where R is H or CH_3) and their acceptable salts with metal cations are new:

The new cpds. are produced by cultivating Micropolyspora sp. ATCC 31295, 31296, 31297 or 31298, and are active against a variety of anaerobic bacteria and some aerobic bacteria. Generally the oral dose of the cpds. is 50-750 mg, given 3-4 times per day.



(I)

11. 10. 77 as 841242 (18pp990)

MEIJ D16 33117Y/19 =US 4169-140
Antibacterial and antifungal antibiotic SF-1771 - and its antibacterial and antitumour deriv. SF 1771-B produced by removal of copper from SF-1771
MEIJI SEIKA KAISHA 29.10.75-JA-129306
*B04 C03 (25.09.79) *DT2649-604 A61k-35*

Novel antibiotics SF-1771 and SF-1771-B are claimed. The SF-1771 cpd. may be prepd. by cultivating a strain of the genus Streptomyces (first isolated from a soil sample collected in Tada-u-mi-cho, Takehara City, Japan) under aerobic conditions.

The SF-1771-B cpd. is prepd. by removing the copper component from the SF-1771 cpd. by treatment with H_2S or alkali metal sulphide. It has lower toxicity than SF-1771 but an equiv. antibacterial activity and also shows transplanted antitumour activity.

The cpds. have high activity against Gram positive and Gram negative bacteria and against fungi and are useful in treatment of infections and for sterilising surgical materials. 27. 10. 76 as 736143 (18pp945)

See Also

D13 SU 641948 D15 BE 876657 D13 DS 2504618

D17: SUGAR; STARCH

AGRO- ★ D17 B/40 ★BR 7801-233
Harvester for sugar cane tops
AGRO-IND AMALIA S/A 01.03.78-BR-001233
P12 (25.09.79) A01d-45/10

MASW D17 07351V/05 =DS 2245-019
Turbine centrifuge for sugar prodn - with cooled motor for continuous running
MASCH BUCKAU WOLF R 14.09.72-DT-245019
*J01 P41 (27.09.79) *BE-804-871 B04b-03 B04b-15/02*

A sugar centrifuge for continuous operation has the hub of the bowl attached directly to the bottom end of the vertical shaft of an electric motor. The motor extends far enough inside the bowl to locate the centre of gravity of the bowl in the plane of the bottom motor bearing. The motor is flanged through rubber buffers on the cover of the centrifuge casing.

The cooling fan supplies air downward over the motor casing ribs and tht ough a conical cylinder close to the accelerator cone. This heats up the cooling air enough to reduce the viscosity of the massecuite and to enable continuous operation. It also results in quieter running of the centrifuge. 14.9.72 as 245019(4pp39)

NISH- D17 00690A/01 = J7 9027-325
Sparingly hygroscopic granular powder prodn. - by spray-drying a mixt. of fine crystals and sugar liq. prepd. from sugar liq. contg. maltose
NIPPON SHIRYO KOGYO 12.05.76-JA-054741
*E13 (10.09.79) *J52136-112 C07h-03/02*

The powder is prepd. from sugar liq. contg. >80% maltose. The method comprises (1) stirring the sugar liq. of conc. >65%, at 20-65°C in the presence of crystal seed to ppte. >25% maltose, and spray-drying the resulting mixt. to obtain granular powder, (2) maturing the granular powder for >5 hrs. under temp. and relative humidity conditions giving an absolute humidity of 0.016 kg (water content)/kg(dry air)- 0.024 kg(water content)/kg(dry air), and then drying the granular powder.

Conditions (2) for the powder contg. 86% maltose are e.g. temp. 35°C and relative humidity 43%, temp. 40°C humidity 70%.

(1) Pptes. the fine crystals of maltose rapidly, and (2) makes the powder sparingly hydroscopic. 12.5.76 as 054741 C07h-3/02 (10.9.79) NIPPON SHIRYO KOGYO (3pp)(J52136112)

SYDK- D17 86104R/46 = J7 9027-411
Sugars recovered from dried sulphite lye - residue
SYDKEMI AB (SYD -) 05.05.67-SW-006348
*(10.09.79) *US3542-590*

AJIN ★ D17 72971B/40 ★ J7 9027-412
Readily dispersible starch prod. - prepd. by forming an aq. paste of starch, hot pressing into a sheet and crushing to powder
AJINOMOTO KK 03.04.75-JA-039793
(10.09.79) C13l-01/08

Starch is mixed with water to give a paste contg. 40-47% the resultant is pressed witha board under heating at 120 to 180°C to give a sheet like material of 1 to 100 mm thickness and then crushed to a powder.

The resultant is highly viscous and easily dispersible in cold or hot water. 3.4.75 as 039793 C131-1/08 (10.9.79) AJINOMOTO KK (3pp22)(J51115934)

NCAU= ★ D17 73094B/40 ★ SU -639-847
Mannitol and sorbitol prepn. for food and pharmaceuticals mfr. - from alkaline sugar soln. by pressure hydrogenation over nickel-aluminium-titanium alloy catalyst system
NORTH CAUCASUS PROT 19.05.77-SU-490814
B05 E17 (D13) (11.04.79) A61k-09/36 C07c-31/18

Mannitol and sorbitol used in food industry and pharmaceuticals, are made from sugar by inversion, purification and catalytic hydrogenation under pressure.

The process is simplified as follows: before hydrogenation the system is treated with NaOH soln. to pH 9.5-11.5 and hydrogenation is then conducted on Ni-Al-Ti alloy at 105-110°C, 100-150 kg/cm^2 press of H_2. The fixed catalyst contains (%) Ni 44.0-46.5, Al 50.0-53.5, Ti 2.2-2.3

Spesivtseva, O.P., Surkova, G.I. Pelikh, T.F. et al.
Bul. 48/30.12.78. 19.5.77. as 490814 (2pp835)

PLAV= ★ D17 73328B/40 ★ SU -642-001
Separator for clarifying suspensions esp. molasses - has drum with chamber and diffusors to distribute incoming suspension
PLAVA SMYCHKA MECH 28.04.77-SU-481525
J01 P41 (17.01.79) B04b-01/06 B04b-11

The separator for clarifying suspensions particularly molasses, comprises a drum with cylindrical inserts fixed in holders. The inserts have outlet apertures. There is also a supply inlet. In order to raise productivity and to make clarification more efficient, the drum has a mechanism to distribute the incoming suspension, fixed on the upper holder. This consists of a chamber under the supply inlet, and diffusors, connected to the chamber cavity. The distance from the axis of rotation of the drum to the outlet ends of the diffusors exceeds that from the axis of rotation to the outlet apertures of the first cylindrical insert.

The initial suspension enters the receiving chamber and spreads on the conical surface, creating excess hydrostatic pressure. It then enters the diffusors, in which laminar outflow conditions are created by their immersion in the suspension and smooth entry of the suspension.

Paramonov, V.A., Kalugin, V.M., Mokrov, L.Kh. et al
Bul. 2/15.1.79. 28.4.77. as 481525 (2pp18)

USMC D17 33608B/18 = US 4168-660
Sugar cane crushing mill - with three adjustable top rolls over fixed anvil roll
USM CORP 19.10.77-US-843578
*+P41 P71 (25.09.79) *DT2844-034 +B30b-03/04 B30b-09/20*

A sugar cane mill has at least four rolls journalled between a pair of frames, the uppermost roll being a cane roll and being disposed above the lowermost, an anvil roll to form a nip; the third roll being a feed roll and being parallel to the nip; and the fourth roll being a bagesse roll and being disposed parallel to the nip on the other side from the feed roll.

The three uppermost rolls are adjustable relative to each other and the anvil roll with either the feed or bagesse roll being journalled in an adjustable frame. The adjustable frame allows for arcuate movement of the roll and lateral movement. 19.10.77 as 843578 (8pp1376)

BEWA- D17 84084A/47 = US 4168-988
Xylose prodn. from annual plant residues e.g. straw - by treatment with aq. acid soln. to remove salts and organic contaminants, hydrolysing residue and xylose recovery
INST BEWARING LANDB 17.05.77-GB-020767
*E13 (25.09.79) *BE-867-153 C13k-13 +C13k-01/04*

Xylose is produced from the residues of annuals, by extracting soluble and solubilised undesired substances from the residues countercurrently with an aq. acid soln., then pressing the extracted residues to remove as much of the proportion of undesired substances as possible, and moistening the pressed residues with an acid soln. contg. xylose.

The pentosans present in the residues are hydrolysed by increasing the temp. of the moistened residues, and the hydrolysis terminated by decreasing the temp. The pentoses are then extracted from the hydrolysed residues with water. The xylose soln. obtd. is purified and concd. and opt. won by crystallisation.

The xylose obtd. is sufficiently pure for commercial purposes and need not be recrystallised. The prod. is used in the prodn. of xylitol, used as a sweetener for jams, etc. 15.5.78 as 905984 (6pp931)

See Also

D13 J7 9027323 D16 US 4169013 D16 US 4169014

D18 : SKINS; HIDES; LEATHER; TOBACCO

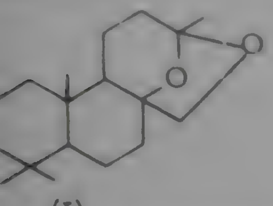
BRTA ★ D18 71731B/40 ★ BE -876-291
Tobacco smoke filter prod. for cigarettes - contg. mixt. contg. adsorbent cpd. and reactive cpd. contg. amino groups
BRIT AMER TOBACCO LTD 16.05.78-GB-019977
P15 (17.09.79) A24d B01d

The filter comprises, as a mixture or a compact dispersion, a first cpd. which is a good adsorbent but weak or of weak retention for the vapour phase incorporating aldehydes of the tobacco smoke, and a second cpd. comprising amino gps., which is capable of combining chemically with e constituents to give substantially non-volatile reaction oducts.

The filter is partic. for cigarettes. The combination ables more effective removal of undesirable substances ch as volatile aldehydes and HCl. The combination of the o cpds. gives a synergistic effect possibly as a result of e adsorption/desorption/reaction system. 16.5.79 as 76291 (10pp597)

RM D18 55989W/34 =DS 2505-157
romatising tobacco or tobacco substitutes - with compsns contg. ,13:13,20-diepoxy-15,16 dinorlabdan imparting wooden, amberke note
FIRMENICH SA 12.02.74-CH-001932
*E13 P15 (27.09.79) *DT2505-157 A24b-15*

obacco and/or tobacco substitutes are scented by the preence of 0.1-10 ppm of 8,13:13,20-diepoxy-15,16-dinorabdanum. of formula (I).



(I)

Pref. 0.1-5 (0.5-2)ppm. (I) is present. Prepn. of (I) is described in CH338469. 7.2.75 as 505157(2pp68)

HAUN ★ D18 71893B/40 ★DT 2811-176
Compact filter rod for cigarettes - having series of drums and knives o assemble two or more components onto binder paper to form continuous rod from which elements are cut
HAUNI-WERKE KORBER KG 15.03.78-DT-811176
J01 P15 (27.09.79) A24c-05/50

Compact filter rod for cigarettes is formed from several components. These consist of cylindrical filter media of t least two types. These types are combined to form a single element. The fillings are joined together onto a wrapping medium to form a continuous element from which smaller elements are cut.

Gaps are left as the various components are laid side by side. These phantom elements form the natural breaks n the filter. A gap is left between two components of the first type into which a component of the second type drops o form the element.

System allows greatly accelerated automatic production rates on machines. 15.3.78 as 811176 (14pp1053).

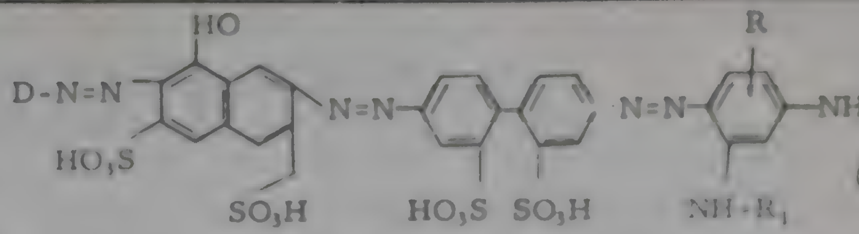
LISH/ ★ D18 72169B/40 ★EP ---4-458
Fabric made of twisted fur strip - the fur hair sticking radially out of the twisted strip
LISHMAN P 21.03.78-CA-299393
F07 P21 (03.10.79) A41h-41 C14b-15/10 D02g-03/02
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Hairy coated skin strip of a fur bearing animal is twisted so that the hairs stand out radially, and the twisted strip is formed into fabric.

The twisted strip is uniformly hairy and can be formed into a seamless fabric, e.g. by weaving, crocheting or knitting. The twist strip can be rapidly formed. 21.3.79 as 300454 (14pp1320).
(E) ISR: FR2177429; FR1561448; FR--95218; DS--23570; FR1418429; GB1466058; DS-355825; CH-333290.

FARB D18 35355U/25 =J7 9027-372
New polyazo dyes - of the aminonaphthol sulphonic acid series, for polyamides and leather, esp suede
BAYER AG 30.11.71-DT-159380
*A60 E21 F06 (10.09.79) *NL7216-062 +C09b-31/20*

New polyazo dyes have, in the free acid form, the formula (I) (where D is the residue of an aromatic-carbocyclic or heterocyclic diazo component, R is H or a substit. and R_1 is H or an acyl gp). The prepn. of the dyes is by reaction of diazo deriv. from D-NH_2 with a diazo dye which, in the free acid form, has formula. (I;D-N=N- replaced by H).



(I)

The deying and printing of fibres, esp. natural or synthetic polyamide, or leather, with (I) is claimed. Full, deep shades are obtd. on suede with smaller amts of dye hitherto. The dyeings have good resistance to acid and alkali. 24.11.72 as 117254 (+30.11.71-DT-159380)
C09b-31/20, (10.9.79) BAYER AG (8pp)(J48064121)

HENK D18 - 20191S/11 =J7 9027-401
Tawing agent for leather based on chlorina- - ted fatty acid esters
HENKEL KG AUF AKTIEN 16.09.69-DT-946723
*A21 (A97) (10.09.79) *BE-756-115*

BERD= ★ D18 73200B/40 ★SU -641-002
Leather chemical treating compsn. - contg. polyfunctional oxygencontg. cpds., synthetic fatty acids, di:ethanolamine and sodium hydroxide
BERDYANSK PETRO-OIL (ULEA=) 29.12.76-SU-435320
(08.01.79) C14c-09

Leather treating compsn. comprises (by wt.): 18-20% of polyfunctional O-contg. cpds. 48-50% synthetic fatty acid mixt. consisting of 2/3 of a 10-16C fraction and 1/3 of a 17-20C fraction, 17-20% diethanolamine and 12-15% NaOH

The compsn. has superior solubilising capacity.

Typical compsn. is made from 49% synthetic fatty acids 19% polyfunctional O-contg. cpds. 18.5% diethanolamine and 13.5% NaOH. The acid no. is nil, the ester no. 85 mg. KOH/g. and the I no. is 0.3g/100g.
Gubanova, V.A., Derbaremdiker, M.L., Martynova, E. N. et al. Bul. 1/5.1.79. 29.12.76. as 435320 (3pp314)

ULEA= ★ D18 73201B/40 ★SU -641-003
Leather liquid treatment drum sampler - has inner funnel with truncated cone-shaped perforated casing
UKR LEATHER FOOTWEA 10.03.77-SU-461263
(08.01.79) C14c-15

The handling of samples taken for the drum of liquid treatment of leather is improved using a funnel fitted inside the drum. The casing is in the form of a truncated cone which is attached by its wide base to the inside of the bottom between the inclined shelves. During the rotation of the drum, the gravity flowing fluid from shelves breaks up into droplets passing through the perforations of the casing.

The raining droplets reach the funnel for discharge through the pipe, while pieces of leather and other solid impurities dropping from the shelves do not reach the casing. They are diverted into the working zone of the drum by the inclined surface of the casing without jamming the perforations.
Melnikov, V.M., Karpukhin, G.G. Ivakhnenko, T.P. Bul. 1/5.1.79. (3pp89)

See Also

D15 US 4169052 D23 DS 2504618

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL ; TOILET PREPARATIONS

ALKU ★ D21 71727B/40 ★BE -876-276
Copolymers of ethylene oxide and/or propylene oxide - with long chain alkylene oxide(s), used as emollients in cosmetic emulsions, creams etc.
AKZO NV 18 05 78-DT-821654
A96 (A25) (17.09.79) A61k

Copolymers of ethylene oxide (I) and/or propylene oxide (II) with long chain alkylene oxides (III) having a minimum chain length of 6 C, are used as emollients in emulsions, creams, pastes and cosmetic pencils. The copolymers are pref. sequenced, with the (III) in blocks with a mol. wt. of 1.10^3-1.10^4, esp. 2.10^3-6.10^3. The wt. ratio (I) and/or (II) to (III) is pref. 5:95-70-30, esp. 25-75-40:60.

The copolymers are used e.g. in water-in-oil type emulsions contg. (by wt.) 1-10% of the copolymer, 20-75% water, 1-10% emulsifiers and fatty acid esters and/or vegetable fats and/or animal fats and/or waxes and/or fatty alcohols and/or hydrocarbons of the type normally used in cosmetic emulsions. The copolymers can also be used in water-free cosmetic creams, pastes, etc. The copolymers render the skin soft and more ready to absorb the active constituents of the compsn., and improve the adhesion of decorative cosmetics to the skin. They give stable emulsions and are odourless, so that they are useful substitutes for lanolin in cosmetic preparations. 16.5.79 as 876276 (14pp513)

COLG ★ D21 71735B/40 ★BE -876-314
Transparent gel dentifrice of specified compsn. - contg. pure lauryl sulphate, not clouding on ageing
COLGATE PALMOLIVE CO 19.05.78-GB-020758
A96 E19 (A25) (17.09.79) A61k

Compsn. comprises a dentifrice vehicle contg. 5-50% of a polishing agent having an empirical SiO_2 content of at least 70%, a granulometry of 1-35μ., a structure substantially amorphous to X-rays and a refractive index of 1.44-1.47; a liquid phase, having a refractive index compatible with the polishing agent to enable transparency, contg. a humectant; a solid phase contg. a gelling and/or thickening agent, a cpd. providing 0.01-1% F chosen from alkali metal fluorides and monofluorophosphates, and 0.1-5% of a surfactant mixture comprising a narrow cut alkali metal lauryl sulphate and another anionic surfactant (I).

(I) is (a) alkali metal salt of higher satd. aliphatic N-acyl deriv. (amide) of lower aliphatic aminocarboxylic acid; (b) alkali metal salt of sulphate of an alkylene oxide condensate with a higher satd. aliphatic fatty alcohol; and/or (c) phosphate comprising a mixt. of mono- and di-esters of formula $R(OC_2H_4)n\text{-}O\text{-}P(O)(OM)_2$ and $R(OC_2H_4)n\text{-}O\text{-}P(O)\text{-}(OM)O\text{-}(C_2H_4O)R$ in which R is 10-20C alkyl, n is 1-6, M is H, alkali metal or ammonium; the ratio of alkali metal laurylsulphate to the other surfactant is ≥ 2:1. By 'narrow cut' above, is meant contg. ≥90% of 12 C alkyl radicals.

The transparent gel formulation avoids cloudiness encountered in prods. contg. Na lauryl sulphate and alkali metal fluoride cpds. 17.5.79 as 876314 (13pp597)

COLG ★ D21 71736B/40 ★BE -876-315
Dentifrice of specified compsn. contg. fluoride and colourant - with acid additive to avoid colour loss on storage
COLGATE PALMOLIVE CO 19.05.78-GB-020759
E37 (E24) (17.09.79) A61k

The compsn. comprises a dentifrice vehicle contg. 5-50% of a siliceous polishing agent having an empirical SiO_2 content ≥70%, a granulometry of 1-35 μ, a structure substantially amorphous to X-rays and a refractive index of 1.44-1.47; a cpd. providing 0.01-1% F chosen from alkali metal fluorides and monofluorophosphates; 0.0007-0.05% of a red or yellow monazo colourant or a blue triarylmethane colourant which is non-toxic and water-soluble; and 0.05-0.5% of an additive which is benzoic acid and/or phytic acid for alkali metal monofluorophosphates and benzoic acid for alkali metal fluorides.

The additive reduces the loss of colour occurring whe the compsn. contains a siliceous agent and fluoride or m nofluorophosphate. 17.5.79 as 876315 (16pp597)

COLG ★ D21 71767B/40 ★BE -876-42
Dentifrice paste compsn. contg. calcium carbonate - with laur sulphate, avoiding grain formation on ageing
COLGATE PALMOLIVE CO 25.05.78-GB-022475
A96 E19 (A25 E33) (17.09.79) A61k

The compsn. comprises 20-75% of a polishing material b sed on calcium carbonate; 0.1-5% of a surfactant contg. sodium lauryl sulphate having a range of 10-18C alkyl rad icals with a 12C alkyl content of 40-70%; and 0.2-1% of a M_4-pyrophosphate or an anionic phosphate which is a mix of mono- and di-esters of formula $R(OC_2H_4)n\text{-}O\text{-}P(O)(OM$ and $R(OC_2H_4)nO\text{-}P(O)(OM)\text{-}O(C_2H_4O)nR$ in which M is H, a alkali metal or ammonium, R is 10-20C alkyl and n is 1-

The compsn. avoids the formation of grains on low temp. ageing in compsns. contg. $CaCO_3$ and the sodium laurylsulphate. 21.5.79 as 876425 (10pp597)

GRAC ★ D21 71785B/40 ★BE -876-50
Dentifrice contg. hydrated silica gel polishing agent - acid an alkali treated to improve its abrasiveness
GRACE W R CO 24.05.78-US-909149
E36 (17.09.79) A61k

A dentifrice contg. 5-50% of a hydrated silica gel having water content of 20-60% and a granulometry of 1-40 μ, is claimed where the gel has a pH of 6-10, as measured on 5% aq. dispersion of the gel. The dentifrice is prepd. us ing the gel which as a wet silica hydrogel has been washe with aq. acid at 27-93°C until the total salt content is red ced to <5% and the ground gel is contacted with alkali to pH of 6-10 as measured above.

The silica gel is used as polishing and cleaning agent. The alkali treatment improves the abrasive character of t hydrated silica gel of 15-35% water content of prior art. 23.5.79 as 876505 (15pp597)

COLG ★ D21 71814B/40 ★BE -876-61
Extrudable opaque dentifrice paste - contg. sodium aluminosilicat as main polishing agent with mainly water as vehicle
COLGATE PALMOLIVE CO 30.05.78-GB-024226
E33 (17.09.79) A61k

The paste contains as abrasive agent and/or polishing age a sodium aluminosilicate or a mixt. comprising a major -oportion of sodium aluminosilicate and small proportion another abrasive which is totally or mainly a material oth than an alkaline earth metal carbonate in the presence of a vehicle which is totally or mainly water.

The aluminosilicate (e.g. 1 pt.) can replace 2-3 pts. (e.g. 2.4 pts. of dicalcium phosphate) giving an equiv. ab asive effect which enables at the same time a lower densit giving economy in filling. It also gives a higher viscosity enabling water to replace at least partially the sorbitol an glycerol normally used. 29.5.79 as 876612 (10pp597)

ASPR ★ D21 71825B/40 ★BE -876-639
Inhibition of dental caries with cationic polysaccharide - which binds to cariogenic bacteria, formulated as mouth-wash, tooth paste, ointment etc.
NICHOLAS PTY LTD 31.05.78-GB-025870
A96 B04 (A11) (17.09.79) A61k

The use of a pharmacologically acceptable cationic polysa ccaride (I) for inhibition of dental caries is new. Pref. (I) contains quat. ammonium gps., and is pref. derived from a galactomannan, specifically guar gum, with a degree of substitution about 0.13. Compsns., esp. toothpastes, mouth washes, ointments and formulations for massaging the gums, contg. (I) are also claimed.

(I) bind to oral cariogenic bacteria, esp. Streptococcus ntans, so reduce the concn. of such bacteria on the dental amel. 30.5.79 as 876639 (36pp1251)

RO- D21 50246R/28 =DS 2001-127

nti perspirant comp in aerosol form with - dimethyl ether as opellent

AEROSOL MIJ HOLLAND (AER -) 13.01.69-NL-000551

*B05 (27.09.79) *BE-744-357 A61k-07/38*

erosol antiperspirant formulation comprises a clear oln., which in addition to normal scent and/or colouring gents, contains aluminium hydroxychlorine 5-15%, water 5-45%, ethanol 20-35%, propylene glycol 2.5-7.5%, richlorocarbanilide 0.05-1.5%, and dimethyl ether to 00%.

The formulation can also contain germicides. It is not armful to the skin and avoids the use of undesirable fluorinated propellants. The combination of water, alcohol nd ether permits higher Al cpd. levels; the trichlorocarbanilide is more easily dissolved in the presence of the lycol, and inhibits clogging of the nozzle by crystallised l salts, and the glycol also enhances the perfume. 2.1.70 as 001127(2pp913)

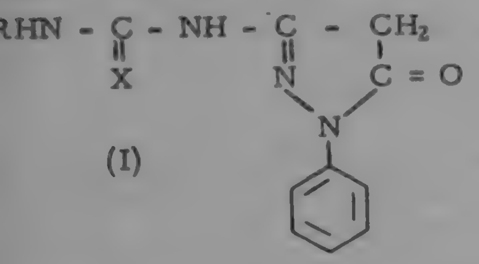
ENK D21 35086U/25 =DS 2160-318

Human hair dyeing compsns - contg substd 3-aminopyrazolone -5 pds

HENKEL KG AUF AKTIEN (THE -) 04.12.71-DT-160318

*E23 (27.09.79) *DT2160-318 A61k-07/13*

Dye for human hair contains an oxidising dye, e.g. H_2O_2, normal additives and, as coupling and developing component, 0.5-10 wt.% of a pyrazolone of formula (I)



(I)

(where X is O or S and R is 1-6C alkyl, (chlorinated)phenyl or a cycloaliphatic gp.).

Pyrazolone (I) may be 1-phenyl-3-ethylureidopyrazolone-5-. Hair is dyed blonde with good resistance to light and washing. 4.12.71 as 160318(3pp68)

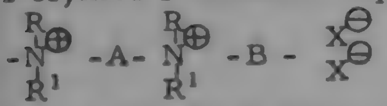
OREA D21 80221W/49 =DS 2521-960

Quaternised polymers for cosmetic compsns. - esp. for pretreatment of hair before shampooing, obtd. from diamine and e.g. bromo alkane

L'OREAL SA 14.02.75-LU-071849 (16.05.74-LU-070096)

*A96 (A26 D25) (27.09.79) *BE-829-081 A61k-07*

Cosmetic agent, e.g. shampoo, dye, hair lacquer etc., contains a quaternised polymer (I) e.g. as conditioner. Polymer I contains repeating units of formula



$$-\overset{R}{\underset{R^1}{N^{\oplus}}}-A-\overset{R}{\underset{R^1}{N^{\oplus}}}-B-\quad \begin{matrix}X^{\ominus}\\X^{\ominus}\end{matrix}$$

Suitable R is $-CH_2-CH_2OH$ or lower alkyl; R^1 is a 1-20C hydrocarbon gp. or R and R^1 together with N form a heterocyclic ring; A is a specified divalent alkylene gp. which may be interrupted by phenyl, -S-, -O-, -S-S-, -SO- or $-SO_2-$ or is $-p-C_6H_4-CH_2-p-C_6H_4-$; B is a specified divalent alkylene gp. which may be interrupted by phenyl or -O- or is $-CH_2-CH(OH)-CH_2-$ and X is the anion of an organic or mineral acid). Suitably the polymer contains units where $R^1=R=CH_3$ X=Br. 16.5.75 as 521960(29pp68)

TAKA/ D21 06080Y/04 =DS 2629-694

Dental compsn. for covering pulp or filling root canals - prepd. from formaldehyde phenol condensate and calcined calcium hydroxide

TAKAHASHI T 30.06.75-JA-080665

*A96 (A21) (27.09.79) *DT2629-694 A61k-05/08*

Intermediate condensate for use in dentistry is prepd. by reacting formaldehyde or its polymers with at least one phenol and an ester (I) of a vegetable oil and a multivlaent alcohol at 90°C for 1-1.5 hours.

Reaction is effected in the presence of a catalyst of one or more di- or tri-basic organic acids and an accelerator of one or more other (in)organic acids and their salts. Reaction is stopped, the mixt. cooled and the oily prod. at the base of the reaction vessel removed, rinsed with water, purified and dried.

Ester (I) is prepd. at 230°C for 2-3 hours in the presence of 0.1-1.0% of a calcium soap, zinc soap or zinc oxide as catalyst. The condensate may be mixed with fillers and has a disinfectant effect. 29.6.76 as 629694(4pp68)

HERA ★ D21 71868B/40 ★DS 2851-729

Facing dental prosthesis esp. of gold alloy - with paste contg. spherical gold particles and volatilisable oil before dental porcelain

HERAEUS W C GMBH 30.11.78-DT-851729

A81 M13 P32 P53 (A11) (27.09.79) A61c-13 B22f-03/22 C04b-41/14 C22c-05/02 C23c-17

A compsn., for facing cast or sintered metallic dental prostheses or prostheses parts with dental porcelain, contains 75-95% Au, consisting of ≥ 95% solid sphere-shaped Au particles having max. particle dia 2µ and average dia. 0.8-1.2µ, and is mixed to a spreadable paste with terpineol admixed with a lesser proportion of Et cellulose.

A dense, Au-coloured, bright uniform Au layer is formed on stoving, without agglomerating to drops. The dental porcelain layer is firmly bonded to the colouring layer. The prosthesis surface is filled and sealed. 30.11.78 as 851729(3pp200)

WELA ★ D21 71875B/40 ★DT 2810-81

Solid permanent waving or hair-straightening compsn. - contg. calcium sulphide and sodium or potassium salt mixt. releasing alkali sulphide in use

WELLA AG 13.03.78-DT-810812

E37 (27.09.79) A61k-07/09

Solid hair-setting compsn. consists of, by wt., pref. 5-30 (5-25)% CaS combined with 5-80 (10-70)% Na- or K carbonate, sulphate, sulphite, phosphate and/or hydrogen phosphate and opt. standard cosmetic additives, esp. thickeners and fillers.

The compsns. are stable and odourless, and are easily transported and stored. On mixing with water, the compsn gradually releases an active hair-setting Na- or K sulphide Water quantity may be 30-300wt.% of solid compsn. The prod., ready for use, may be a liq., cream or gel, esp. having pH 11.5-13.4. 13.3.78 as 810812 (9pp200).

ANDE/ ★ D21 72061B/40 ★DT 2909-666

tooth cleaner comprises piece of plastics elastic polyolefin foam - with v/grooves, is held against user's teeth whilst making chewing motion

ANDERSSON B A E 13.03.78-SW-002828

A96 P32 (27.09.79) A61c-17

Device for cleaning a person's teeth comprises a body with at least 1 groove of 'V'-shaped cross-section, whose walls have a scouring or brushing action when pressed against the teeth whilst the user performs a chewing movement.

The body has elastically yielding cellular structure and is suitably made of an expanded polyolefin e.g. polyethylene, polypropylene or a polystyrene. The groove is produced by cutting. The article, as claimed, is inexpensive to mfr. and suitable for use by persons undergoing dental treatment and who experience difficulty, for any reason, to handle a normal toothbrush, only the chewing motion being required for successful operation. 12.3.79 as 909666 (23pp267).

UYCO- ★ D21 72072B/40 ★DT 2910-021

Orthodontic device made of beta-titanium alloy wire - with better bendability and strength to elasticity modulus than stainless steel

UNIV CONNECTICUT 14.03.78-US-886430

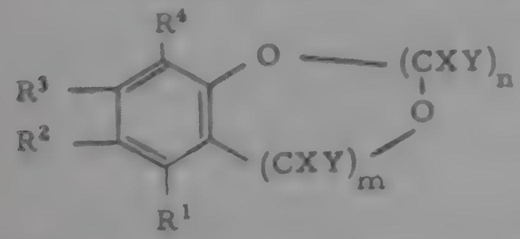
M26 P32 (27.09.79) A61c-07

The orthodontic device has a force-applying wire of 0.1-2.0mm dia. made of a room temp.-stabilised β Ti alloy having a modulus of elasticity significantly below 1.38 x 10^6 bar and a yield strength/elasticity modulus ratio 0-80% greater than that of a stress-relieved 18/8 stainless steel wire of the same dia., so that the wire applies a low constant force over a long period and the useful life of the device is improved. The wire has a higher max. elastic bending to the bending limit than stainless steel wire so that it can undergo extensive bending into complex orthodontic configurations.

The wire is useful for ligature wires, braces and similar components in orthodontic and prosthetic devices and for surgical arch wires for jaw fractures, etc. 14.3.79 as 910021 (26pp935).

HENK ★ D21 721338. 40 ★EP ---4-366
Hair dyeing compsns - contain benzodioxole or benzodioxan deriv. coupler and standard developer for oxidn. dyes
HENKEL KG AUF AKTIEN 25.03.78-DT-813076
E13 (03.10.79) A61k-07/13 C07d-317 C07d-319
D/S: E(BE, CH, DT, FR, GB, NL, SW).

Oxidn. dye-based hair-dyeing compsns. contain benzodioxole or benzodioxan couplers having formula (I):



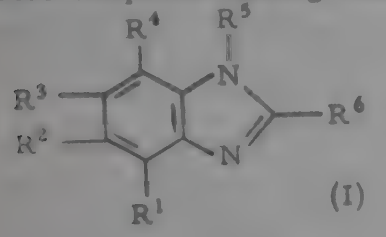
(I)

(where R^1 to R^4 are H, 1-4 C alkyl, OH or amino, provided that at least one of R^1 to R^4 is H, at least one of the remaining gps. is OH or amino and there are at most two OH gps.;
X and Y are H, 1-4 C alkyl or aryl; m is 0 or 1; n is 1 or 2) or, on using the amino derivs., also their inorganic or organic salts, together with standard developer components.

(I) yield strong, fast yellow to dark blue shades. (I) are soluble in water, non-toxic, do not irritate the skin and are stable.
19.3.79 as 100829 (15pp200).
(G) ISR: ———

HENK ★ D21 72134B/40 ★EP ---4-368
Hair dyeing compsns. - contg. benzimidazole deriv. couplers and standard oxidn. dye developers
HENKEL KG AUF AKTIEN 23.03.78-DT-812678
E23 (03.10.79) A61k-07/13 C07d-235/04
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

Oxidn. dye-based hair-dyeing compsns. contain benzimidazole couplers having formula (I)



(I)

(where R^1 to R^4 are H, OH or 1-4C alkoxy, provided that two of the gps. are H and the other two gps. are OH or alkoxy; R^5 is H or 1-4C alkyl; R^6 is H, 1-4C alkyl or aryl) or their inorganic or organic salts and standard developer components for oxidn. dyes.

(I) yield strong, brown to fast blue-black shades, are soluble in water, non-toxic, do not irritate the skin and are stable.
19.3.79 as 100831 (16pp200).
(G) ISR: DT1921911; DT1492166.

GUIL/ ★ D21 72191B/40 ★EP ---4-514
Mouldable cutaneous electrode - in form of plaster cast contg. conductive salt, for therapeutic or cosmetic treatment
GUILLOT J 28.03.78-FR-008845
A96 B07 P34 (03.10.79) A61n-01/04
D/S: E(BE, CH, DT, FR, GB, IT LU, NL, SW).

Cutaneous electrode for applying electric currents to human skin for therapeutic or aesthetic purposes comprises a compsn. which can be applied directly to the skin and then solidifies in the manner of a plaster cast. The compsn. comprises (a) a powder binder capable of setting with water and (b) a conductive salt dissolved in the water.

The electrode follows precisely the contours of the body and is capable of covering large areas without any break in contact.
21.3.79 as 400186 (17pp367)
F) ISR ———

LAFF/ ★ D21 72199B/40 ★FR 2412-303
Dental palate liner to facilitate fitting dentures - by enabling patient himself easily to align upper and lower jaws
LAFFARGUE J 21.12.77-FR-039244
P32 (24.08.79) A61c-09

A dental palate liner for temporary use as a guide to assist the patient himself to align his upper and lower jaws in both open and closed positions. This alignment is required to ensure correct fitting of dentures for effective biting. The liner comprises a pair of lateral wings which clip against the roof of the mouth. The wings are symmetrical on opposite sides of a guide bar which extends centrally from front to rear of the palate.

The inner end of the bar has a downward projection with a small sphere on its lower end. If the tip of the tongue is run along the guide bar from the front until it rests on the sphere, the jaws are automatically aligned. The liner is pref. made of plastic. 21.12.77 as 039244 (8pp448)

ESPE D21 38384Y/22 = GB 1553-580
UV polymerisation of acrylic ester dental compsn. - contg. benzoin deriv. as sensitiser and organic phosphite activator
ESPE FAB PHARM PRAPARATE 21.11.75-CH-015138 (14.10.76-DT-646416)
*A14 E14 (A96) (03.10.79) *DT2646-416 C08f-02/50*

UV-photopolymerisable compsn. comprises a UV-photopolymerisable (meth)acrylic acid ester, a benzoin cpd. as initiator, and 0.1-20 wt.% of the ester of an organic phosphite UV-photopolymerisation activator. Pref. the compsn. further contains a polymerisation inhibitors and an inert filler.

The phosphite accelerates photopolymerisation by 2-10 times. Compsn. is esp. used as tooth fillers, coatings for the sealing of teeth and as fixing prepns., esp. for orthodontics, and as printing ink binders, cratings etc.
17.11.76. as 047951 (10pp997)

SNKM ★ D21 72255B/40 ★GB 2016-994
Denture base prodn. - by sequential application of photocuring type resin cpd., and curing
SANKIN IND CO LTD 15.03.78-JA-030459
A96 P32 (03.10.79) A61c-13

Denture bases are prepd. as follows:(a) a photocuring type resin cpd. (I) is applied thinly to a plaster cast coated with a mould release agent (II), and (I) is cured by uniform exposure to actinic radiation; (b) (I) is applied to the layer photocured in step (a), and (after alignment of artificial teeth) (I) is cured by uniform exposure to actinic radiation; and (c) (I) is applied to the layer photocured in step (b), and (after formation of dental roots) (I) is cured as above. (I) pref. consists of a polymerisable methacrylate and/or acrylate together with a light sensitiser and/or filler.

Highly effective and efficient method eliminates the need for a -ve mould and rapidly affords denture bases which have a high degree of adaptability to the mouth. The artificial teeth do not change posn., polishing operations are simple, and no fins or gates exist. 14.3.79. as 08946 (6pp478)

WATA ★ D21 72351B/40 ★J5 4106-598
Synthetic high polymer gel - comprising aluminium salt of water-soluble polymer of aliphatic carboxylic acid
WATANABE YAKUHIN KO 09.02.78-JA-013021
A14 B04 (A96 B07 D22) (21.08.79) C08f-08/44

Synthetic high polymer gel comprises an Al salt of a water-soluble polymer of an aliphatic carboxylic acid or a salt thereof.

The gel is excellent in shape-retention (no flowability and strong elasticity despite of a large water content), water inclusion (water does not leak out even when compressed with a water content of 90%), thermal stability, transparency, water absorbability etc. and is useful for pharmaceuticals (bases for syrups), medical instruments (wet packs for cooling affected parts with fever), cosmetics (packs) etc.

Pref. the gel is prepd. by adding a slightly soluble Al cpd. (e.g. $Al(OH)_3$, $AlCl_3$, Al acetate, Al alum, etc.) to an aq. soln. of a water-soluble polymer of an aliphatic carboxylic acid (salt) (e.g. polyacrylic acid, polymethacrylic acid, carboxyvinyl polymer, etc.) to effect the reaction. Pref. the reaction is conducted in the presence of an organic acid (e.g., glycolic acid, lactic acid, malic acid, tartaric acid, etc.). 9. 2. 78 as 013021 (8pp140)

IKM ★ D21 72407B/40 ★J5 4107-187

ntal filling material contg. high molecular polymer powder - gether with binder, e.g. aromatic (meth acrylate, and reactive luent, e.g. aliphatic (meth acrylate

SANKIN KOGYO KK 10.02.78-JA-014387

A96 (A14 A26) (22.08.79) A61k-05/06

dental complex filling material contains a high molecul- r polymer powder as a filler. The powder is pref. of romatic (meth)acrylate, aliphatic, (meth)acrylate, or ilicone resin. The particle size of the powder is pref. of -80 μ. The polymer powder filler is pref. added in amt. f 50-80 wt. % to the compsn. A binder of aromatic acry- ate and/or aromatic methacrylate and a reactive diluent f aliphatic acrylate and/or aliphatic methacrylate are ref. present.

Conventionally, an inorganic filler such as silica, glass eads or alumina is added to an instantaneously polymer- sable resin for dental use to strengthen the obtained resin illing and to decrease the thermal expansion coefficient f the resin. In place of such an inorganic filler, the org- nic filler is used to improve the brightness of the obtained illing. 10. 2. 78 as 014387 (5pp30)

OZAW/ ★ D21 72499B/40 ★J5 4107-528

Non-flammable liq. for removing manicure membrane - comprises zeotropic mixt. of tri:chloro tri:fluoroethane and acetone and high boiling organic solvent which dissolves nitrocellulose

OZAWA M 13.02.78-JA-014114

E19 (23.08.79) A61k-07/04

The liq. comprises an azeotropic mixt. of trichlorotrifluoroethane and acetone and 10 to 30 % of high boiling organic solvent which dissolves nitrocellulose. Ratio of trichlorotrifluoroethane to acetone is 87.5/12.5. The high boiling organic solvent soluble includes propylene carbonate, γ-butyrolactone, carbitol, amyl acetate, lactic acid, etc.

In an example, 70 pts. wt. of trichlorotrifluoroethane is mixed with 10 pts. wt. of acetone to give azeotropic mixt. To the mixt. was added 20 pts. wt. propylene carbonate together with a small amt. of perfume. The obtd. removing liq. had high non-flammable property and also has high removing ability for manicure membrane. 13. 2. 78 as 014114 (3pp22)

OSKA ★ D21 72783B/40 ★J5 4109-028

Dental workpiece precision casting system - for cobalt, chromium or nickel-chromium alloys, uses lower electrode withperture and non-consumable electrode in melting chamber

OSAKA TRANSFORMER KK 14.02.78-JA-016081

M22 P53 (27.08.79) B22d-27/17

The lower electrode with an aperture and a non-consumable electrode are in an air tight chamber, the aperture coinciding with an aperture of the chamber. A mould is attached to the air tight chamber, with the aperture of the air-tight chamber coinciding with the gate of the mould so that a passage may be formed for molten metal.

A shielding member is placed between the air-tight chamber and the mould. Inert gas, e.g. argon, is introduced into the chamber and the mould after the air is sucked out.

Metals such as Co-Cr alloys or Ni-Cr alloys can be relatively easily melted. 14. 2. 78 as 016081 (5pp87)

NISW ★ D21 72871B/40 ★J5 4109-917

Esterified condensate of poly:ol and 12 hydroxy:stearic acid - used in cosmetics, contains not more than half of total number of hydroxyl gps. in the starting condensate

NISSHIN OIL MILLS KK 14.02.78-JA-014970

E17 (29.08.79) A61k-07 C07c-69/67

A cpd. obtd. by esterification of a condensate of a polyhydric alcohol, having 2-4 hydroxyl gps., of formula $(HO)_nR\text{-}O\text{-}R(OH)_n$, (where R is a residue formed by removing the hydroxyl gps. from a polyhydric alcohol having 2-4 hydroxyl gps. and n is 1,2 or 3), and 12-hydroxystear -ic acid. The esterified cpd. contains, in one molecule, $\leqslant$ 1/2 of total hydroxyl gps. in the polyhydric alcohol condensate.

In the esterified cpd. $\leqslant$ 50 mol. % of 12-hydroxystearic acid is substd. for by linear higher fatty acid whose car- bon number is $\geqslant$ 14 and/or side-chain higher fatty acid whose carbon number is $\geqslant$ 16. The cpd. is used in cos- metics. 14. 2. 78 as 014970 (6pp75)

SHIS D21 83934Y/47 =J7 9027-408

Cosmetics comprising perfume and pigment - which is obtd. by immersing inorganic pigment powder in aq. soln. of complexing agent for metal ions, dehydrating and drying

SHISEIDO KK 06.04.76-JA-038660

*E16 (E12) (10.09.79) *J52122-639 A61k-07/46*

The cosmetics consist of a perfume and a pigment to be perfumed. The pigment is obtd. by immersing an inorganic powdery pigment in an aq. soln. of a complexing agent for metallic ions, dehydrating and drying.

The pigment is pref. talc and complexing agent is EDTA or its sodium salt. The complexing agent is applied at 0.01-10 (0.1-1) w/w% on the pigment and generally an aq. soln. of concn. 0.001-20% is used. The obtd. pigment can be applied in powdery cosmetics as well as in cream and liquid cosmetics. Perfume has a long lasting effect. The stability of perfumed pigment can be futher improved by coating the pigment before or after the perfuming with metallic soap. The coating is pref. in the presence of an antioxidant. 6. 4. 76 as 038660 A61k-7/46, 7/035 (10. 9. 79) SHISEIDO KK (18pp)(J52122639)

HENK D21 63799A/36 =US 4168-952

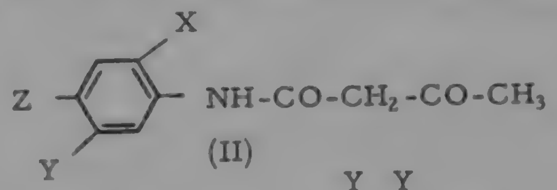
Dyeing keratinous materials e.g. human hair - with development dyes of a diazonium salt and an acetic acid arylamide as coupling agent

HENKEL KG AUF AKTIEN (CIBA) 25.02.77-CH-002394

*E24 (25.09.79) *DT2807-780 A61k-07/13*

Human hair is dyed with developing dyes by applying effective amts. of diazo salts and coupling agents for dyeing in any sequence, and at 15-40°C, coupling the 2 components together.

The coupling component is an acetoacetic acid acrylamide of formula (I), (II) or (III) where X, Y and Z are each H, 1-4C alkyl or alkoxy, or a halogen. Pref. the coupling agent is (I), where X and Y are each methoxy and Z is Cl; (II) where Y is H, and X is Me; or (III),



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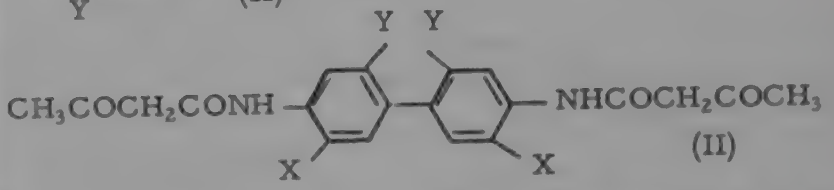

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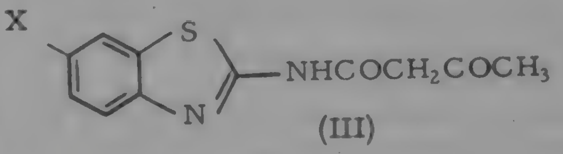


(III)

where X is ethoxy.

The components used overcome the disadvantages of using oxidation dyes, such as p-phenylenediamine and benzidine. The prod. covers the colour range from yellow to brown by variation of the diazo component. 24. 2. 78 as 880925 (5pp931)

HENK D21 84706Y/48 =US 4168-953

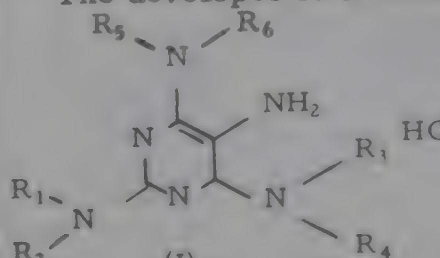
Oxidising dyes for hair - contg. tetraamino-pyrimidines and hydroxy-indazoles

HENKEL KG AUF AKTIEN 26.05.76-DT-623564

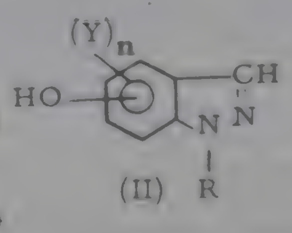
*E13 (25.09.79) *BE-855-018 A61k-07/13*

An aq. prepn. of the developer-coupler type is prepd. for the dyeing of hair contg. 0.2-5 wt. % of a developer (or its water-soluble acid addition salt) and a coupler, 0-30 wt. % of a surfactant, 0-25 wt. % of a thickener, and a balance of water.

The developer is a tetraaminopyrimidine of formula (I):



(I)



(II)

where R_{1-6} are each H, Ph, 1-4C alkyl, 7-10C phenylalkyl or phenylalkenyl or a $X\text{-}(CH_2)_n$ gp. The coupler is an opt. mixt. of monohydroxyindazole(s) of formula (II), where R is H or 1-4C alkyl, Y is H, a halogen or a 1-4C alkyl and n is 1 or 2, such that when n is 2, Y can be the same or different group. The developer and coupler are present in molar ratio of 2:1-1:2.

The prepn. yields very intensive yellow tints distinguished by esp. satisfactory fastness wrt light, penetrating properties and toxicological harmlessness. 23.5.77 as 799585 (5pp931)

See Also

D16 J5 4107585 D16 J5 4107586 D16 J5 4107587
D23 DS 2504618 D23 J5 4109910

D22: BANDAGES; DRESSINGS

EXCE ★ D22 71732B/40 ★BE -876-292

Prefilling sterilisation of milk containers with bactericidal aerosol - produced by ultrasonic atomisation of liq. for entrainment in air current

EX-CELL-O CORP 16.05.78-US-906159
P34 (D13) (17.09.79) A61l

Sterilisation of a container with a bactericidal aerosol is claimed. A predetermined vol. of a bactericidal liq. is contained in a nebulising chamber. The chamber is fitted with a piezoelectric crystal oscillator which produces ultrasonic vibrations atomising the surface of the liq. to fine particles. Compressed air is piped into the chamber to pass over the liq. surface, entrain the particles and form an aerosol. The aerosol is piped to a nozzle which is directed into the container to be sterilised.

The chamber outlet for aerosol is pref. located centrally just above the surface level of liq. The chamber inlet for compressed air is above the aerosol outlet level. The liq. level in the chamber is pref. maintained automatically by controlled make-up from a reservoir. The chamber is pref. provided with a liq. overflow outlet and a low-level cutout.

Used for fitting to a filling machine to sterilise containers to be filled with homogenised milk, skimmed milk, butter egg-based drinks, etc. Optimum mixt. of liq. in carrier gas is obtd. Continuous control of aerosol concn. is achieved. Very fine atomisation of liq. is obtd. with no danger of droplet agglomeration in the nozzle. 16.5.79 as 876292 (27pp148)

EVAL/ ★ D22 71759B/40 ★BE -876-406

Deodorising compsn. for ash trays - comprising incombustible free flowing absorbing substance and absorbed deodorising oil

EVALANDI P 27.06.78-IT-012684
P15 P34 (17.09.79) A24f A61l

The granular deodorising compsn. for direct contact with cigarettes, cigars, butts of these, etc., comprises a solid absorbing substance and an absorbed deodorising essential oil. The absorbing substance is formed from a granular or powdered compsn. which is free-flowing and incombustible at the combustion temp. of the cigarette or analogue.

The compsn. is esp. used in cars, railway coaches and planes and provides an effective and constant deodorisation at the same moment as the disagreeable odours are produced in the ash-trays. 21.5.79 as 876406 (10pp597)

SUPE- ★ D22 71761B/40 ★BE -876-410

Hygienic clothing, e.g. sanitary towel, absorbent wad or undergarment - is treated with reagent which changes colour on contact with e.g. the urine, indicating certain pathological conditions

SUPER IRIDE SPA 07.06.78-IT-012653
J04 P21 P32 R16 (17.09.79) A41b A61f G01n

Hygenic clothing, notably sanitary towels, absorbent wads and undergarments, are provided with zone which comes into contact with liqs. or organic matter eliminated by the user which is treated with ≥ 1 coloured reagent.

This indicates, by a colour change, the presence of substances indicating certain pathological conditions of the user. Such reagents, e.g. sodium nitroprusside, are specific for the detection of ketonic bodies in the urine while methyl orange indicates the basicity or acidity of the urine etc. The reagents are applied to the clothing by dipping, spreading or spraying. 21.5.79 as 876410 (6pp519)

KURT/ D22 32699R/19 =DS 1767-4

Impregnating articles with germicidal cpds

KURTZ L D (KUR /) 23.06.67-US-648247
*B07 P34 (27.09.79) *FR1583-560 A61l-13*

Material such as paper, leather, textiles or surgical thread is produced having an internally deposited, practically water-insol. germicidal salt. The salt has anions derived from 12-18C fatty acid, heparin or acid antibioti The mol.wts. of the anions and cations are both ≥ 150. The salt exhibits an ion-like germicidal property.

Pref. the cation part of the salt comprises cations of basic antiobiotics. The material is produced by first imr ersing it in an aq. soln. contg. ions of high mol.wt. to diffuse in the ions. The substrate is then opt. dried. Fur ther it is immersed in a second aq. soln. contg. high mo wt. ions of opposite charge to the first. The two ions react to produce the insol. salt within the material substra Long lasting germicidal activity is achieved. 15.5.68 as 767484(Div. ex1792806)(6pp913)

MMMM- D22 74316U/49 =DS 2222-9

Sterilizing chamber - with aqs formalin soln and exhaustin aeration facilities

MMM MUNCHEN MEDIZIN 10.05.72-DT-222992
*P34 (27.09.79) *DT2222-992 +A61l-01*

In a sterlising process the aq. formation soln. is introduced in the sterlilising chamber in an exact dosage and evaporated by heating the chamber bottom. Evacuation o the chamber begins at the same time and is maintained after the sterilizing phase when fresh air is admitted to remove the formalin residue. When the evacuation is ter inated, a complete flushing with fresh air precedes the opening of the chamber and the extraction of the sterilise articles.

This is free from the toxic hazards cuased by the use of ethylene oxide and provides simple, fast, reliable and non-toxic sterilisation. 10.5.72 as 222992(6pp39)

TORA D22 25641A/14 =DS 2742-58

Sterilising dialyser contg. semipermeable membrane - by saturatin with liq. contg. antibacterial agent e.g. aq. hydrogen peroxide an irradiating

TORAY IND INC 24.09.76-JA-113716
*A96 J01 P34 (A35 A88) (27.09.79) *DT2742-588 A61l-01*

Dialyser with a semipermeable membrane is sterilised by impregnating the membrane with an antibacterial agen dissolved or suspended in liq. and then irradiating with rays, pref. gamma- or electron- rays, in an amt. of ≥ 2 Mrad.

Antibacterial agent is pref. H_2O_2. The process is simple, fast and effective. 22.9.77 as 742588(5pp68)

BAUM- ★ D22 71977B/40 ★DT 2812-47

Shoe inlay sole - with the central of three layers contg. activate carbon and needled to the top layer

BAMA-WERKE BAUMAN C 22.03.78-DT-812474
A83 P22 (27.09.79) A43b-17

An inlay sole for shoes consists of several layers which are superimposed and are joined to each other. The one nearest the foot is a yielding natural or artificial fibre mat which is fixed by needles to the second layer, pref. cellulose material enriched with activated carbon and a latex bond. The bottom layer is a mixt., of rubber or cork granules which sticks to the latex in the second laye

This sole is simple to produce and provides excellen alking comfort. 22.3.78 as 812474 (8pp39).

CHL/ ★ D22 71990B/40 ★DT 2812-696
mplant for dental prostheses - contains poly:methyl methacrylate nd calcium phosphate or carbonate mixed with gelatin for nchoring to pin supporting tooth
SCHLATTMANN W 23.03.78-DT-812696
A96 P32 (A14) (27.09.79) A61c-08

An immediate implant for anchoring dental prostheses consists of a mixt. of bone cement polymethyl methacrylate with Ca phosphate or $CaCO_3$ and gelatin. An anchoring pin is finished to support an artificial tooth at one end and carries a polymerised-on polymethyl methacrylate layer at the other end, in the area to be set into the implant. The pin can be fixed with polymethyl methacrylate in a cavity of the immediate implant.

The immediate implant material is partly absorbed by tissue, whereby bone and tissue can grow into implant structure. Anchoring allows good fixing of the tooth. 23.3.78 as 812696 (12pp200).

KURS ★ D22 72048B/40 ★DT 2908-805
Absorbent for aq. e.g. body fluids - is prepd. by partly crosslinking pVA with a cyclic di:carboxylic acid anhydride
KURARAY KK 23.03.78-JA-034575
A97 J01 P32 (A14) (27.09.79) A61f-13/18 B01j-01/22 C08f-08/14

Absorbent for aq. fluids consists of a powdered PVA type-polymer (I) modified by reaction with a cyclic acid anhydride (II) in anhydrous condition, to effect a partial crosslinking of (I).

The absorbent, on a suitable support, may be used for absorbing body fluids, e.g. as tampons, bandages and nappies. When distributed in fluid-absorbing supports, the modified (I) can absorb large quantities of fluid without wetting the surface. Absorbent quantity can be reduced by 50wt.%, compared to standard absorbents, reducing absorbent vol. by $\geqslant$ 30%. 7.3.79 as 908805 (26pp200).

ASPR D22 56051Y/32 =GB 1553-633
Incontinence substrate with urine-permeable top layer - with absorbent lower layer of oriented cellulose staple fibres (BE 3.8.77)
NICHOLAS PTY LTD 01.04.76-AU-005435 (03.02.76-AU-004702)
*A96 F07 P32 P33 +P26 P73 (03.10.79) *DT2703-251 B32b-05/06 B32b-27/06*

Assembly for the management of incontinence comprises $\geqslant$1 layer (a) of non-absorbent hydrophobic textile material through which urine can freely pass, and $\geqslant$1 layer (b) of absorbent hydrophilic textile material behind layer (a) to receive and absorb urine passing through layer (a).

The absorbent layer is formed of aligned cellulosic staple fibres (fibres having the same absorption characteristics as absorbent fibres made of cellulose) of $\geqslant$0.5 inch length and 2-7 denier formed into a cross-laid web and needled to form a felt which will absorb $\geqslant$350 wt.% of urine (on its dry wt.) and will disperse urine laterally by capillarity throughout the felt. The staple fibre is pref. of viscose or rayon.

Assembly is intended to replace paper incontinence pads on beds or chairs and is reliable, reusable and relatively inexpensive. 10.1.77. as 000734 (+12.2.76-AU-021853) (15pp997)

BEEC D22 57122A/32 =GB 1553-739
Body deodorant compsn. contains sodium or potassium bi:carbonate - in ethanol and water soln.
BEECHAM GROUP LTD 27.01.77-GB-003319
*E34 (03.10.79) *DT2803-176 A61k-07/32*

Personal deodorant comprises a soln. of $NaHCO_3$ or $KHCO_3$ in ethanol and water contained in a dispenser for applying the compsn. to the skin. Pref. the bicarbonate is present in amt. 0.1-20 (0.1-10) wt.% based on total wt. of compsn. The ethanol content is pref. 15-60(25-45) wt.% based on total wt. of compsn.

The deodorant is free of organic antimicrobial agent. An example of the compsn. for use as a roll-on-deodorant comprised 4 wt.% hydroxyethyl cellulose, 3 wt.% Procetyl AWS, 1 wt.% $NaHCO_3$ perfume, 15 wt.% industrial methylated spirits, and deionised water to 100 wt.%. 23.1.78. (3pp393)

WILL/ ★ D22 72259B/40 ★GB 2016-998
Absorbent filled incontinence pad - has top plastic sheet with flaps on punched holes acting as non-return valves
WILLINGTON F L 28.03.79-GB-011191 (17.03.78-GB-010582)
A96 (03.10.79) B29d-07

Pad has an absorbent filling covered by a permeable membrane of sheet plastics with punched perforations leaving flaps or cusps to act as non-return valves impeding escape of urine from the filling.

The sheet is pref. the upper of a two-layer composite sheet, the lower being of absorbent fibrous material. The perforations are pref. punched before assembly by blunt blades acting at 60° to the sheet supported on an apertured base. The sheet is e.g. made of polyethylene. 28.3.79. as 011191 (4pp1358)

PROT- ★ D22 72287B/40 ★GB 2017-160
Wood preservative compsn. contg. insoluble dye - which is solubilised during application to wood and does not subsequently bleed into wood paint
PROTIM INT LTD 08.05.79-GB-015910 (09.02.78-GB-005158)
C03 E24 F09 (03.10.79) D06p-01/16 D06p-07

Wood preservative compsn. comprises a soln. of a wood preserving agent (I) in an organic solvent (II) and including a dye (III) that is inherently insoluble in (II) but is made soluble in the compsn. The (III) is present in the compsn. during impregnation of wood, then (III) becomes insoluble in (II).

The (III) does not bleed into most types of wood paint when the paint is subsequently applied to the impregnated wood.

(III) is made soluble e.g. by adding miscible solvent for it, this second solvent pref. being more volatile than (II). Typically, 2-butoxyethanol is used as solvent for (III), so that 0.01-20% is present in the compsn.,with 0.1-5 % (III) present. Pref. (III) is CI Solvent Red 8, 12715. 8.5.79. as 015910 (4pp1248)

SANY ★ D22 72491B/40 ★J5 4107-517
Preventing propagation of algae - by applying herbicydine A and/or b
SANKYO KK 10.02.78-JA-014635
C03 (D15) (23.08.79) A01n-09

Propagation of algae, is prevented by applying herbicydine A and/or B to locus where the algae is grown. Growth of fine algae (e.g. green algae, blue algae, yellow algae, diatom or euglena plant); by propagation causing pipe clogging and muddy water is suppressed. Herbicydine A and B are non-toxic to fish.

In an example, 40L water tank, in which Ankistrodesmus and Serenastrum were propagated, was provided and herbicydine A or B was added to water in the water tank to give 100 ppm concn. With aerating, goldfish was raised in the water tank. After 10-14 days, algae was killed, and precipitated, but change on the goldfish was not found. 10.2.78 as 014635 (4pp68)

NIBD ★ D22 72794B/40 ★J5 4109-069
Adsorption of pollutants in chamber e.g. living room - by placing vessel contg. adsorbent granules in chamber and circulating the air in the chamber
NITTA BELT KK 15.02.78-JA-016943
P34 (27.08.79) A61l-09

Pollutants in e.g. living room or refrigerator, etc. are effectively removed by adsorption and simultaneously deodorisation by situating an air-permeable vessel which is filled with granular adsorbent, e.g. activated charcoal, activated alumina, zeolite and kaolin etc. pref. in combination with oxidising agent (and catalyst), e.g. hypochlorite, sulphate, chrolophyll, aldehydes, acetates and metal oxides etc., in the chamber to be purified while circulating air in the chamber through the adsorbent by the action of heat generated by heat-generator positioned near the adsorbent.

The position of the heat generator is pref. above the adsorbent so that the purified air is effectively risen, and polluted air surrounding the adsorbent is transferred naturally to a position contacting with the adsorbent without any thermal damage to the adsorbent. 15.2.78 as 016943 (3pp34)

SATO/ ★ D22 72970B/40 ★J7 9027-403

Phosphoric acid enzyme-contg. material for healing wounds - is prepd. by pressing animal placenta in tetra:chloroethane and penta:chlorobenzene, centrifuging, and concentrating and filtering the liq.

SATO K 20.07.72-JA-072034

B04 (10.09.79) A61k-35/50 C07g-07/02

Animal placenta is washed with sodium citrate and frozen, followed by crushing, the resultant is mixed with tetrachl-oroethane and pentachlorobenzene, followed by pressing the material obtained is centrifuged and the liquid portion obtained is concentrated and filtered to give active ingredient containing phosphoric acid enzyme. The resultant is useful for curing wound. 20. 7. 72 as 072034 A61k-35/50, C07g-7/026 (10. 9. 79) SATO K (8pp22)(J49030584)

TRYC D22 41801Q/00 #J7 9027-404

Biocidal water-sol org mercury cpds for incorporation

TROY CHEMICAL CORP 04.01.67-GB-000585 (21.09.66-JA-062569)

*A92 C03 E19 (10.09.79) *GB1173-661 +A01n-09/38*

ODEL- ★ D22 B/40 ★OE 7805-693

Sterilising installation

ODELGA J ARZTLICH T 04.08.78-OE-005693

P34 (15.09.79) A61l-03

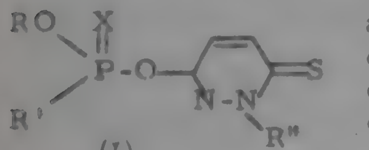
FARB D22 55980Y/32 =SU -641-861

Insecticidal and acaricidal pyridazinyl phosph(on ate cpds. - prepd. e.g. by reacting (thio)phosphoryl and phosphonyl halides with hydroxy-pyridazine cpd. (BE 3.8.77)

BAYER AG 03.02.76-DT-603993 (28.01.76-DT-603052)

*B03 C01 (10.01.79) *DT2603-993 A01n-09/36 C07f-09/65*

New pyridazinyl (thio)phosph(on)ates are cpds. of formula (I). In (I) R is 1-6C alkyl; R' is 1-6C alkyl, 1-6C alkoxy, 1-6C alkylmercapto, 1-6C alkylamino or phenyl; R" is 1-4C alkyl, cyano-(1-4C alkyl), (1-4C alkoxy) carbonyl-(1-4C alkyl), (1-4C alkyl)-carbonyl(1-4C alkyl), or phenyl opt. mono- or polysubstd. by halogen, NO_2, 1-4C alkyl or 1-4C haloalkyl; and X is O or S.



(I)

(I) are insecticides and acaricides with low phytotoxicity and favourable toxicity to warm-blooded animals. They can be used in plant-protection, against hygiene and stored product pests, and in the veterinary medicine sector against octoparasites.

Specific cpds. (I) include O,O-diethyl-O(1,6-dihydro-1-methyl-6-thioxo-3-pyridazine-6-thione with O,O-diethyl-phosphorochloridate in acetonitrile in the presence of potassium carbonate.

Hofer, W., Maurer, F., Ribel, H.J., et al. Bul. 1/5.1.79. 27.1.77. as 442948 (32pp)

LFOR= ★ D22 73365B/40 ★SU -642-166

Wood surface staining and preservation treatment - includes impregnation with aq. copper salt soln. and treating in hot drying oil contg. hydroxy quinoline dye

LATV FORESTRY RES 21.06.76-SU-374218

C03 E32 F09 P63 (E23) (15.01.79) B27k-03/02 B27k-05/02

Wood with stained, antiseptic and hydrophobic surface is obtd. by impregnating the surface with aq. copper salt soln. and thermally treating the resulting prod. in hot high boiling liquid (pref. drying oil) contg. 8-hydroxy-quinoline dye (I).

The use of copper salt and the above dye result in the formation of non-toxic complex which produces uniformly stained wood surface with antiseptic characteristics.

Kyuda, K.K., Znots, U.A., Balod, V.V. et al. Bul. 2/15.1.79. 21.6.76. as 374218 (2pp938)

WOOD= ★ D22 73367B/40 ★SU -642-168

Antifungal timber treatment aq. soln. - contg. sodium penta chloro-phenolate and ammonium fluosilicate or sodium fluoride

WOOD MECH PROCESS 12.08.77-SU-515931

C03 E12 F09 P63 (E34 E35) (15.01.79) B27k-03/52

Timber is protected against fungal degradation and staining by impregnation with aq. soln. contg. (in wt. %): sodium pentachlorophenolate (I) 75-90; ammonium fluosilicate (II) or sodium fluoride 10-25. The impregnation soln. is non-toxic to man and has high fungicidal activity. The working concn. is 0.5-2.0 wt. % of the above mixt.

Chashchina, L.M., Poromova, T.M., Klobukova, N.N. Bul. 2/15.1.79. 12.8.77. as 515931 (2pp938)

KEMA ★ D22 73390B/40 ★SW 7712-955

Preventing corrosion of metals in aq. systems - by adding sulphite or bisulphite of an ether amine

KEMANOBEL AB 16.11.77-SW-012955

E19 H01 M14 (18.06.79) C09k-15/28 C23f-11/16

PROC ★ D22 73475B/40 ★US 4169-004

Sealing absorbent tampon overwrap end - by pleating gathered end then heat sealing small area to form water breakable rivet:like seal

PROCTER & GAMBLE CO 05.08.77-US-822296 (24.09.75-US-616213)

A96 P32 (25.09.79) A61f-13/20

A water-breakable seal in the end closure of a tubular heat-sealable fluid permeable overwrap of an absorbent tempon is formed by gathering and pleating the overwrap end, compressing at an isolated region of smaller size than the closure, and heating the region by conduction to fuse it into a rivet-like agglomerate from one surface to the other of the closure.

The material is held under compression while cooling. The overwrap is pref. of fabric weighing 0.4 oz/yd^2, the pressure on the region is at least 22,000 lb/in^2, and the material is heated to at least 200°F. The apparatus is claimed. 5. 8. 77 as 822296 (8pp1358)

PIET/ D22 00084A/01 #US 4169-121

Absorbent cellulose-sodium CMC fibres - treated with formaldehyde giving greater absorption of liqs.

PIETSCH H (VERE) 27.08.76-DT-638654 (09.09.77-US-831755)

*A96 P32 P34 (A11) (25.09.79) *BE-858-128 +A61f-13/20 C08l-01/24 D02g-03/02*

A tampon or similar hygienic article having high fluid suction and holding power for aq. physiological fluids is produced, in which a viscose spinning solution is prepd. from cellulose xantogenate by dissolving it in aq. caustic soda.

The spinning soln. is then aged, spun in an acid spinning bath, and the resultant fibres cleaned and dried. 5-20 wt. % of sodium carboxymethyl cellulose (wrt cellulose in the soln.), is added to the soln. The partly reticulated fibres obtd. are cleaned in an acid soln., the fibres formalised, the sodium salt regenerated and the fibres washed until neutral.

The absorbent material prepd. in the process is esp. used for tampons, sanitary napkins, baby diapers and hospital pads. 9. 9. 77 as 831755 (2pp931)

MOOR- ★ D22 73536B/40 ★US 4169-123

Cold gas sterilisation using hydrogen peroxide - for plastic contact lenses, plastic foam medical swabs, etc.

MOORE-PERK CORP 26.09.77-US-836667 (11.12.75-US-639966)

E36 P34 (25.09.79) A61k-33/40 A61l-13

Method of 'cold' gas sterilisation consists of surrounding the article to be sterilised with H_2O_2 (I) gas. (I) gas is kept in contact with the article at <80°C until it is sterile, and the article is then kept free from recontamination until it is to be used.

(I) has good penetrating props., and although decompen does occur, sufficient gas penetrates into the pores of articles, and through gas permeable wrappers, etc. to kill even the most resistant forms of microbial life. Method avoids direct contact with liq. (I) and is suitable for sterilising plastic contact lenses or plastic foam medical swabs etc. 26. 9. 77 as 836667 (5pp478)

MOOR- ★ D22 73537B/40 ★US 4169-124

Low temp. sterilisation - using hydrogen peroxide at reduced pressure

MOORE-PERK CORP 26.09.77-US-836665

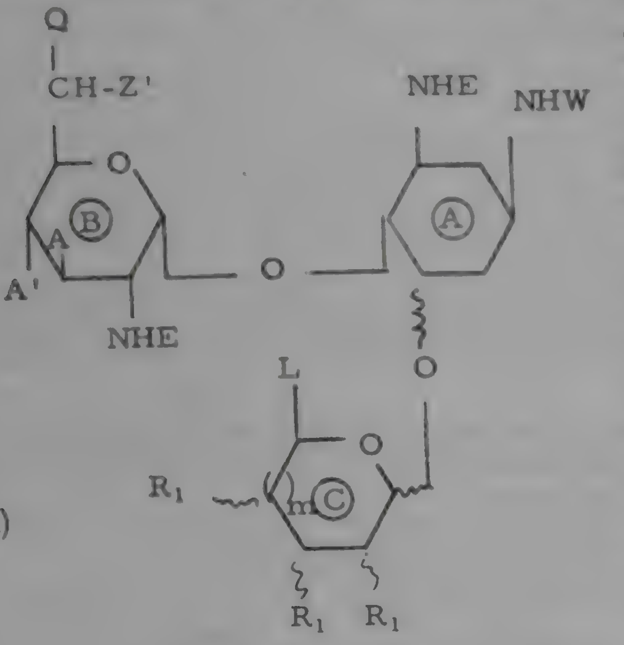
E36 P34 (25.09.79) A61k-33/40 A61l-13

Cold gas sterilisation is carried out by contacting an article to be sterilised with gaseous hydrogen peroxide at a concn. <75 mg/l., and at a temp. <80°C, until sterilisation is complete.

The process is esp. useful for sterilising contact lenses. The process is simple, rapid, and cheaper than hylene oxide sterilisation. It does not require long riods of storage to eliminate residual sterilising agent om treated items. 26.9.77 as 835665 (5pp955)

PJO D22 22298B/12 =US 4169-197
ntibacterial deoxy-neamine derivs. and precursors - useful e.g. for erilisation and paper making BE 6.3.79)
UPJOHN CO 13.03.78-US-885872 (06.09.77-US-830684)
*B03 E13 F09 + P34 (25.09.79) *DT2836-913 C07h-15/22*

-Deoxyneamine aminoglycoside cpds. of formula (I) and cceptable salts are new. In (I), R_1 is H, OH, O-acetyl, -benzyl, O-benzoyl NHR_2-NR_2R_3 (where R_2 is H, acetyl r trifluoro acetyl and R_3 is 1-4C alkyl); m = 0 or 1; L is $-(+)_2R_1$ or $-CH(NHR_2)-CH(OR_6)-CH_3$ (where L is latter m = 1 and R_1 is acetyl) Q is H or Me. Z' is -NHE -OB or NCH_3E. E is removable amino blocking gp. B is removable alcohols blocking gp; A' is H or OB; W' is E or J (where J is 1-3C alkyl or $-CO-CHOH-(CH_2)_n-NH_2$ (n = 0-2).



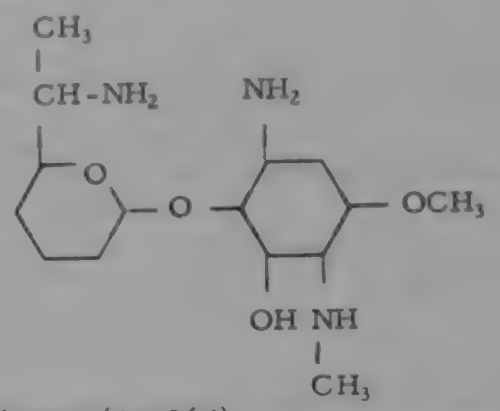
(I)

(I) are useful as antibacterial agents and as intermediates in the synthesis of antibacterial 6-deoxyneamines. A specific cpd. is O-2,6-diamino-2,6-dideoxy-α-D-glucopyranosyl(1 → 4)-O-/3-amino-2,3-dideoxy-2-D-arabinohexopyranosyl (1 →5)-2,6-dideoxy-D-streptamine 13.3.78 as 885872 (19pp964)

ABBO D22 47152B/26 = US 4169-198
2-Deoxy-fortimicin B and its precursors - useful as antibacterial, disinfectant and intermediate
ABBOTT LABORATORIES 21.12.77-US-863009
*B03 E13 (25.09.79) *BE-872-912 + C07d-309/10*

2-Deoxyfortimicin B of formula (I) and acceptable salts are new. (I) has antibacterial activity and is also used as intermediate in the synthesis of antibiotic 2-deoxyfurtimycin.

(I) has good activity against various Gram-positive and Gram-negative bacterial. It is also incorporated into disinfecting solns.



(I)

21.12.77 as 863009 (4pp964)

See Also
D21 J5 4106598

D23: OILS; FATS; WAXES

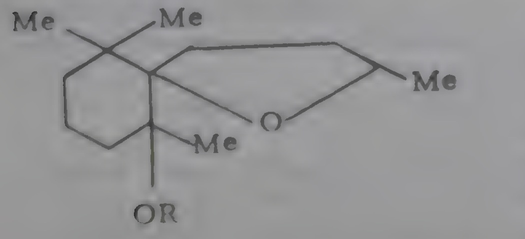
UNIL D23 20313W/12 =DS 1617-023
Hard and liq. glycerol triesters of 10-24 C fatty acids septd. - by forming an unstable water-in-oil emulsion septd. by gravitation
UNILEVER NV 05.10.65-FR-033816
*(27.09.79) *NL-144-983 + C11b-07*

Fat crystals are sepd. from mixts. of fats or fatty acids with different m.pt. The fatty mixt. is first cooled to obtain a mixt. of fat and crystals. Before sepg. the crystals either (a) 0.1-2 wt.% water and 0.01-0.2 wt.% wetting agent are added, based on the initial mixt. of fat or fatty acid or (b) 20-40 wt.% water and 0.01-0.2 wt.% wetting agent are added. The crystals are then recovered.

Separation of solid and liquid is made easier and less fat becomes emulsified in the aq. layer. 4.10.66 as 617023(8pp68)

FIRM D23 55957W/34 =DS 2504-618
1-Oxa-spiro-(4,5)-decane-6-ol and its esters - as perfumes and for modifying taste and aroma of foods, pharmaceuticals, tobacco etc.
FIRMENICH SA 07.06.74-CH-007776 (04.02.74-CH-001488)
*B03 C02 E15 + P15 (D16 D18 D21) (27.09.79) *DT2504-618 A61k-07/46 C07d-307/94*

Spirane derivs. of formula (I) are new. In (I) R is 1-6C acyl. Prepn. of cpds. (I) comprises cyclisation of 1-methyl-2-(1,3-dihydroxybutyl-1)-3,3-dimethylcyclohex-1-ene, followed by epoxidation of the resulting 6(7)-ene, redn. to the tert. 6-ol, and acylation; or corresp. 3(4), 6(7)-dienes are converted to the 6,7-epoxide, then reduced and acylated; or 1-methyl-2-(3-hydroxybut-1-ene-1-yl)-3,3-dimethylcyclohex-1-ene is epoxidised, cyclised with acid hydrogenated and then acylated.

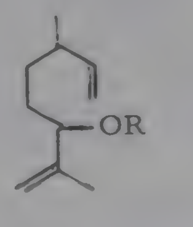


The prods. are used as perfumes and aroma additives. 4.2.75 as 504618(14pp47)

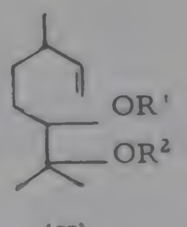
ALBR D23 73365X/39 =GB 1553-571
3-Acyl substd derivs of 2,6-dimethylocta-1,7-diene - useful fragrance cpds for perfume compsns
BUSH BOAKE ALLEN LT 06.03.75-GB-009341
*E17 (03.10.79) *NL7602-320 C07c-69/02*

2,6-Dimethyl-1,7-octadiene derivs. of formula (I) (where R is a 1-6C acyl gp.) are prepd. by pyrolysing a cpd. of formula (II) (where R' and R^2 are each a 1-6C acyl gp.) pref. at 20-60 (30-50)°C in the liquid hase or at 200-350°C in the vapour phase. Similarly the alcohol of formula [(I); R is H] is prepd. by pyrolysing a cpd. of formula [(II); one of R' and R^2 is H and the other is a 1-6C acyl gp].

The new peocess allows the prodn. of the derivs. of formula (I), useful in the perfumery industry as odourants, from citronellene (2,6-dimethyl-2,7-octadiene) starting material at a high conversion rate.



(I)



(II)

1.6.76. (5pp990)

NIHS ★ D23 72865B/40 ★ J5 4109-907
Purification of alkylene oxide adduct of alcohol and/or diol - by treating with phosphate or phosphoric acid to convert tin tetra:chloride catalyst into salts which are removed
NIPPON SURFACTANT KK 17.02.78-JA-016403
E17 (29.08.79) C07c-41/12 C07c-43/04 C08g-65/28

The alkylene oxide adducts obtd. by adding alkylene oxides to alcohols and/or diols in the presence of tin tetrachloride catalyst are purified by treating the adducts with phosphates or phosphoric acid in amts. of 0. 1-5 wt. % of the adduct, and thereby converting tin tetrachloride contained in the adducts into salts which are filtered out.

Adducts which are almost free from turbidity and fluorescence are obtd. through simple operations. They are used pref. as the raw material for perfumes.

The adducts are pref. of formula $R_1O(R_2O)_nH$ or $R_3CH_2CH[O(R_2O)_lH]\text{-}CH_2O(R_2O)_mH$ (II) (where R_1 is > 4C alk(en)yl; R_2 is 2-4C hydrocarbyl; R_3 is as R_1 or > 4C alkoxy; n is 1-10; l + m is 1-15). As the phosphate, orthophosphates, pyrophosphates, hypophosphites and polyphosphates are pref. used. 17. 2. 78 as 016403 (4pp136)

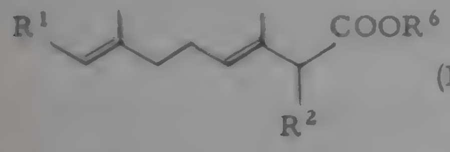
KURS ★ D23 72868B/40 ★J5 4109-910

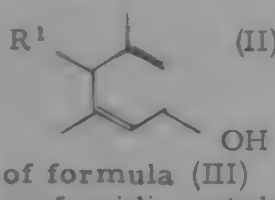
Unsatd. ester(s) prodn. - from allyl alcohol deriv. and ortho-acetic acid ester, useful in perfumes cosmetic bases, pharmaceuticals and agrochemicals

KURARAY KK 16.02.78-JA-018006

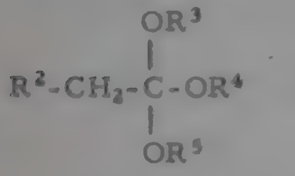
B05 C03 E15 (D21) (29.08.79) C07c-29 C07c-33/02 C07c-67 C07c-69/52 C07d-307/42 C07d-333/24

(1) Process for producing $\Delta^{3,7}$-unsaturated esters of formula (I) are produced by treating prim. allyl alcohol of formula (II)


(I)


(II)

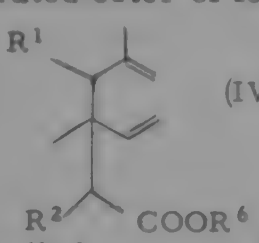
with orthoacetic acid ester derivative of formula (III)



$$\mathrm{R^2\text{-}CH_2\text{-}\underset{\underset{OR^5}{|}}{\overset{\overset{OR^3}{|}}{C}}\text{-}OR^4}$$

(III)

in the presence of acidic catalyst and subjecting resultant γ-δ-unsaturated ester of formula


(IV)

to rearrangement by heating.

In the formulae R^1 is H or (substd.) hydrocarbyl; R^2 is H, lower alkyl, cycloalkyl or aryl; R^3, R^4 and R^5 are each lower alkyl; R^6 is any one of R^3, R^4 and R^5.

(I), carboxylic acid ester having terpene skelton, are applied widely in fields of perfumes, cosmetics base, pharmaceuticals and agricultural chemicals. 16. 2. 78 as 018006 (9pp69)

HOHN ★ D23 72874B/40 ★J5 4109-920

Inhibiting browning of phospholipid due to heating - by blowing in carbon di:oxide while controlling temp. and fat and oil content

HOHNEN OIL KK 18.02.78-JA-017987

E11 (29.08.79) C07f-09/10 C11c-03

The heating is conducted at ≮ 150°C using a phospholipid: fat-and-oil wt. ratio of 0. 2-100 : 99. 8-0 while blowing CO_2 into the mixt.

The method expands the use of phospholipid. The lipid is e.g. soy phospholipid, corn phospholipid, cotton-seed oil phospholipid, rapeseed oil phospholipid, lecithin, etc. The oils and fats used for dissolving or dispersing these phospholipids are e.g. soy-bean oil, corn oil, cotton-seed oil, rape-seed oil, seasame oil, sunflower oil, peanut oil, palm oil, palm kernel oil, coconut oil, butter, margarine, shortening, het, lard, etc. 18. 2. 78 as 017987 (2pp75)

FUSO- ★ D23 72878B/40 ★J5 4109-937

Benzaldehyde and alkyl-phenone cpds. prodn. - by oxidising lower alkylbenzene contg. etherified hydroxy gp. with redox catalyst under acidic conditions

FUSOH KAGAKU KOGYO 13.02.78-JA-015744

B05 E14 M11 (29.08.79) B01j-27 C07c-45 C07c-47/56 C07c-49/84

Prodn. of benzaldehyde and alkylphenones having etherised hydroxy gp. on benzene nucleus comprises oxidising lower alkylbenzene having hydroxy gp. etherised with lower aliphatic gp. at least in para position of benzene nucleus, with persulphate aq. soln. in the presence of redox catalyst while adjusting pH of reaction mixt. to about 2-6 (3-5). Pref. the redox catalyst is watersoluble silver or copper salt.

The cpds. e.g. paramethoxybenzaldehyde, heratoryl aldehyde, piperonal and methoxy acetophenone are used a perfumes, material for pharmaceuticals or metal plating 13. 2. 78 as 015744 (5pp69)

SHIS D23 56056Y/32 = J7 9027-40

Perfume fragrance modification - by adding aliphatic dibasic ac diesters pref. diisobutyl or diisoamyl adipate (NL 2.8.77)

SHISEIDO KK 30.01.76-JA-009674

*E17 (10.09.79) *DT2703-360 A61k-07/46*

Quality of perfume fragrance is improved by incorporating as active component, ≥1 aliphatic dibasic acid dieste having formula $R_1OCOR_2COOR_3$ (I) (where R_1 and R_3 are opt. different satd, branched 4-5C alkyl and R_2 is satd. linear 4C alkylene), pref. diisobutyl- or diisoamyl adipa

(I) act as perfume compsn. modifiers having stabilisin diluent and fixative effects. (I) are colorless, transparen odourless tasteless, low-viscosity liqs., (I) cause no skin-irritation, are non-toxic, can be degraded biologically and can be used in the most varied perfume compsn

Quantity of (I) added to perfume compsns. may be 5-50 (10-30) wt. %/wt. perfume. In systems contg. a larg EtOH quantity, e.g. eau de cologne, quantity of (I) added may be 0. 5-20 (1-15) wt. % /total wt. 30. 1. 76 as 009674 A61k-7/46(10. 9. 79) SHISEDO KK (5pp)(J52094433)

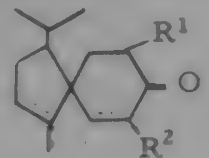
GIVA D23 40237V/22 = J7 9027-40

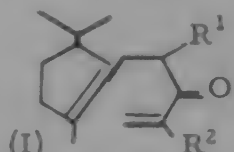
1-Isopropenyl-spiro-decen- or -decan-8-ones - prepd by ring-closure of 3-isopropenyl-(3-keto-4 pentenyl)-1-cyclopentenes with Lewi acids useful as perfumes

GIVAUDAN L & CIE SA 15.11.72-CH-016606

*E15 (10.09.79) *DT2353-147 A61k-07/46*

Perfumes (I):(where R^1 and R^2 each is H or lower alkyl and 1 of the 3 dotted lines is an additional bond) are prepd. by ring-closure of a cyclopentene having the general formula (II) in an organic solvent in presence of a Lewis acid, pref. $SnCl_4$ or $TiCl_4$.

(I)


(I)


(I) have a wooden, background note and are useful as modifiers, esp. in 0. 1-10 wt. % concn. of existing perfum compsns, in 0. 001-0. 1 wt. % concn. as perfumes for cosmetics, detergents, aerosols, soaps, creams or lotions, as starting materials for further perfumes. Pref. (I) are 1-isopropenyl-4-Me- and -4, 8-di-methyl-spiro/4, 5/-dec-6-en-8-one, 1-isopropenyl-4, 7, 9-trimethyl- and -4, 7-dimethyl-spiro/4, 5/-dec-3-en-8-one and 1-isopropenyl-7-Me-4-methylene-spiro/4, 5/-decan-8-one. 13. 11. 73 as 112480/78 Div. ex. 127643/73(clg. 15. 11. 72-CH-016606) A61k-7/46, (10. 9. 79) GIVAUDAN & CIE (4pp)(J54052737)

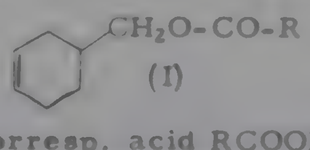
FRIT- ★ D23 73016B/40 ★NL 7902-042

1,2,3-Tetra:hydro-benzyl carboxylate ester(s) - useful as fragrances having floral, woody and/or fruity notes in perfumes and cosmetics

FRITZSCHE DODGE & O 14.03.78-US-886401

E15 (E14) (18.09.79) A61k-07/46 C07c-69/61

Tetrahydrobenzyl esters of formula (I) are new


(I)

(where R is H, an opt. unsatd. 2-6C aliphatic gp. phenyl or cyclopentyl).

(I) are prepd. by reacting 1, 2, 3, 6 tetrahydrobenyl alcohol (II) with the corresp. acid RCOOH. (II) can be prepd. by reducing 1, 2, 3, 6-tetrahydrobenzaldehyde with $NaBH_4$.

(I) are fragrances with various floral, woody and/or fruity notes, they can be used as components of perfumes and as additives for cosmetics, etc. 14. 3. 79 as 002042 (28pp367)

LENL ★ D23 73058B/40 ★SU -574-463 .

Prodn. of phytosterol cpd. - includes extn. of sulphate soap with low mol. alcohol, e.g. ethanol for high yield

LENINGRAD FORESTRY ACAD 12.05.76-SU-363266

(06.10.77) C11d-15

Phytosterol is obtd. by extracting sulphate soap with low-mol. alcohol e.g. ethanol and treating the soln. with an org. solvent. Use of the above extractant improves the prod. yield.

Typically, sulphate soap is extracted with ethanol in a ratio of 1:0. 2 at 50°C for 30 mins. The resulting filtered

oln. is then extracted with gasoline at 50°C in a soap to asoline ratio of 1:2.
emchenko, E.A., Kovalev, V.E., Nekrasova, V.B., t al. Bul. 36/30.9.77. 12.5.76. as 363266 (1pp314)

NFL ★ D23 73507B/40 ★US 4169-072

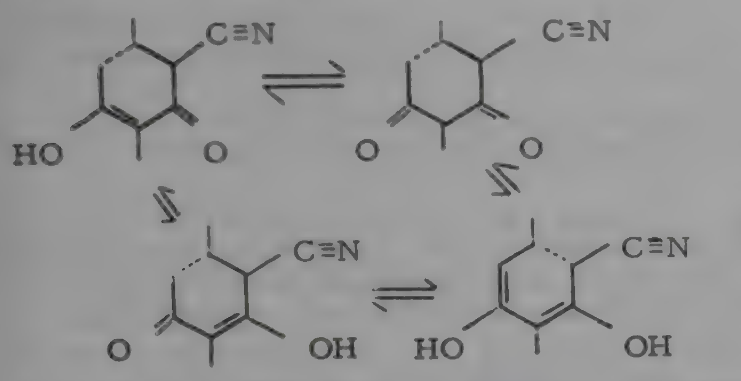
ugmenting or enhancing perfume or cologne aroma - using ubstd. di:methyl:hydroxybenzene or cyclohexadiene equilibrium nixture or constituent

INT FLAVORS & FRAGR INC 08.06.78-US-913715 (26.05.77-US-800889)

E14 (E15) (25.09.79) C11b-09

The aroma of a perfume or cologne is augmented or enhanced by intimately admixing a substd. dimethyldihydroxybenzene or cyclohexadiene represented by the equilibrium mixture [A] or one of its constituents (where the dashed line represents >C-C< or -C=C-) with a perfume or ≥1 other perfume adjuvant selected from natural and synthetic essential oils, aldehydes, other ketones, lactones, other nitriles and esters. 'Oak Moss' notes may be provided and/or enhanced and/or enriched in perfumes such as 'Mousse de Cherie'.

The parent patent (70662A/39) claimed 2,4-dihydroxy-3,6-dimethyl-benzonitrile useful in perfumery as an 'Oak Moss' substitute.



[A]

8.6.78 as 913715 Div. ex. 4115431 (16pp990)

INFL ★ D23 73508B/40 ★US 4169-073

Augmenting or enhancing perfume or cologne aroma - by adding 3(2-chloroallyloxy)-2(10)-pinene

INT FLAVORS & FRAGR INC 05.09.78-US-939919 (27.01.78-US-872937)

E15 (25.09.79) C11b-09

The aroma of a perfume or cologne is augmented or enhanced by adding 3(2-chloroallyloxy)-2(10)-pinene (I) to a perfume base or cologne base. (I) has sweet, aniseed-like fresh phenyl, fruity, strawberry, orange peel and citrusy aroma and flavour characteristics, and also a fatty, creosote-like, citrusy, linalyl acetate-like aroma with musty and phenolic notes.

US4131687 described the enhancement of the aroma and taste of foodstuffs and chewing gum, by the addition of a pinocaruyl aliphatic ether cpd., e.g. (I). 5.9.78 as 939919 Div. ex. 4131687 (45pp990)

ITER- D23 72788W/44 =US 4169-101

Selective vegetable oil hydrogenation - using solid catalyst contg paramagnetic cobalt dispersed in fat, pref prepd from dicobalt octacarbonyl

ITERG INST CORPS 12.04.74-FR-012929

*(D13) (25.09.79) *DT2515-637 C11c-03/12 + B01j-31/02*

Selective hydrogenation of glyceride oils comprises preparing a micrometallic Co catalyst by subjecting $CO_2(CO)_8$ in a vegetable oil to H_2 pressure at 180-230°C to obtain as a catalyst micrometallic Co in a solid glyceride fat; selectively hydrogenating a vegetable oil under pressure and at elevated temp. in the presence of the catalyst; and sepg. the Co from the hydrogenated prod. by magnetic attraction and recovering the micrometallic Co.

The process requires fewer steps, is less costly, and provides better quality prods. at higher yields. Sepn. of the catalyst is easy. 2.3.78 as 882582 (+28.3.75;18.3.77-US-563140; 778886) (5pp997)

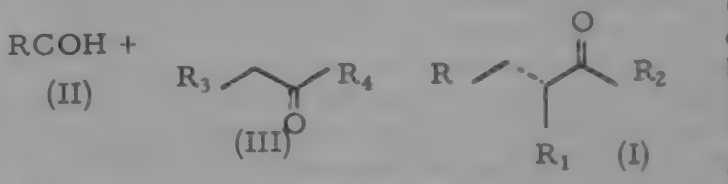
INFL ★ D23 73527B/40 ★US 4169-109

Prepn. of alpha,beta-unsatd. ketone(s) useful as flavours and odorants - by reaction of (unsatd.) aldehyde with ketone using zinc acetate (dihydrate) as catalyst

INT FLAVORS & FRAGR INC 10.08.78-US-932649

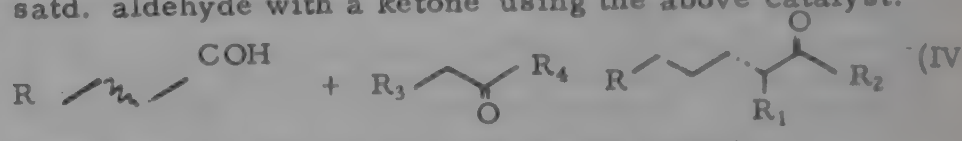
E17 (D13) (25.09.79) C07c-45

An α,β-unsatd. ketone (I) is formed by the reaction of an aldehyde (II) and a ketone (III) using zinc acetate (dihydrate) as catalyst.



(--- is a cis or trans double bond; R is 1-5C alkyl; 3-12C alkenyl, 8-12C alkadienyl, 8-10C alkyl cycloalkenyl alkyl, 7-9C alkyl alkenyl or 7-8C arylalkyl; R_1 and R_3 are H or 1-5C alkyl and R_2 and R_4 are H or 1-5C alkyl and R_2 and R_4 are 1-5C alkyl).

An unsatd. dienone (IV) is formed by reaction of an unsatd. aldehyde with a ketone using the above catalyst.



(〰 and --- are cis or trans double bonds).

Use of zinc acetate (dihydrate) as catalyst is novel (disclosure) and self-condensation of the aldehyde is low c.f. use of NaOH and ZnO, and reaction temps. are reduced.

(I) and (IV) impart intense nutty, spicy, citrus, sandalwood or fruity odours and are used to enhance food flavour perfume and tobacco products. 10.8.78 as 932649 (30pp)

See Also

D13 BE 876550 D13 J5 4107530

D24: SOAP; SOAP DETERGENTS

MECC- ★ D24 71842B/40 ★BE-876-704

Press for moulding cakes of soap and similar materials - has cavity overflow passages to anchor concave prod. from falling out

MECCANICHE MODERN 11.05.79-IT-022611 (31.05.78-IT-024063)

(17.09.79) B29c C11d

The machine is of the type having a vertical platen with several sets of half mould cavities on ≥1 face. The sets are symmetrically arranged around a horizontal axis of rotation of the platen. Intermittent rotation brings each set of cavities in turn to successive processing stations, namely paste blank loading station, compressing moulding station, and demoulding station.

Each cavity now communicates with an adjacent overflow passage formed in the platen. Excess paste is forced into these passages during the loading and moulding station operations. The material in the passage anchors the prod. to the cavity until demoulding takes place. Each overflow passage pref. extends right through the platen and is divergent to max. cross-section on the far side from the cavity.

Cavities can be provided on both sides of the platen which is then located between thin sets of loading, moulding and demoulding stations.

When moulding cakes of soap with convex surfaces there was previously a problem in retaining the prod. in the platen cavity as the platen rotated sets of favities between stations. The prods. is now anchored to the platen by excess material forced into the overflow passage. 31.5.79 as 876704 (+21.2.79-IT-020403) (15pp448)

UGIN D24 48761Y/28 =SU -638-251

Sepg. linear from branched chain soaps using a lithium cpd. - esp. for acids prepd. via hydroformylation of olefins

UGINE KUHLMANN 13.01.76-FR-000680

*E12 (E17) (22.02.79) *BE-850-091 C07c-51/42 C07c-53/24*

A process for the sepn. of straight chain soaps from branched chain soaps and their acids comprises adding to an aq. soln. of the soap mixt. a sol. lithium cpd.

The process is esp. applied to the mixt. acids obtd. by hydroformulation of linear olefins followed by oxidation of the aldehydes. The straight chain soaps have properties similar to natural soaps. The branched chain soaps have a superior wetting lower by inferior foaming power to natural soaps. The lithium salts of the soaps of straight chain acids have the advantage of being easily isolatable by filtration or centrifugation whereas previous attempts at sepn. using other alkali metal soaps have been unsatisfactory. The process enables sepn. of the acids in high purity. Person, L. Bul. 46/15.12.78. 12.1.77. as 439052 (5pp)

D25 : OTHER DETERGENTS

COLG ★ D25 71792B/40 ★BE -876-536

Polyurethane foam dispenser - impregnated with bleaching and softening compsn., for use in drum washing, rinsing and drying of textile fabrics

COLGATE PALMOLIVE CO 25.05.78-US-909331

A84 E16 F06 (A25 E13) (17.09.79) D06f D06l D06m

A dispersion for a liquid bleaching and softening compsn. for use in drum washing, rinsing and drying of clothes, comprises an open-cell flexible polymer foam support contg. a water-soluble peroxide as bleaching agent (I) and a water-sol. quat. ammonium cpd. and/or a heterocyclic imide as softening agent (II), in the wt. ratio (II):(I) = 5:7-5:1. The foam is pref. polyurethane and is of density 11.2-25.6 g/dm^3.

No interaction occurs between (I) and (II) during washing, so that these perform to their max. efficiency. 25.5.79 as 876536 (26pp950)

KAOS ★ D25 72077B/40 ★DT 2910-403

Bleaching compsn. for patterned or coloured clothes - contains percarbonate and/or hydrogen peroxide adduct and imino:di:acetic, di:methylene-phosphonic or imino:di:acetate deriv.

KAO SOAP KK 22.12.78-JA-159624 (20.03.78-JA-031922)

E19 F06 (27.09.79) D06l-03/02

Bleaching compsn. contg. Na percarbonate (A) and/or an H_2O_2 adduct (B) of tetra-Na ethane-1,1,2,2-tetracarboxylate, also contains $\geq$ 1 iminodiacetic acid deriv. having formula $(HOOC-CXY)_2NR^1$ (I) or bis-methylene-phosphonic acid deriv. having formula $R^2N(CXY-PO_3H_2)_2$ (III) (where X and Y are H or 1-5C alkyl; R^1 is 1-5C alkyl, acyl or phosphonoalkylene; R^2 is 1-5C carboxyalkylene; and the carboxylic- or phosphonic acid gp. can be present as the alkali-, alkaline earth-, ammonium- or as an alkylol-amine salt contg. a 2-3C alkyl gp.) or iminodiacetate deriv. having formula $RN(CH_2COOM^1)(CH_2COOM^2)$ (III) (where R is $HOCH_2CH_2$ - or $-CH_2CH_2N(CH_2CH_2OH)(CH_2COOM^3)$ and M^1, M^2 and M^3 are alkali or alkaline earth).

The addn. of (I), (II) and (III) prevents discolouration or fading in bleaching coloured or patterned clothing articles with compsns. contg. (A) and/or (B). 16.3.79 as 910403 (26pp200).

UNIL ★ D25 72171B/40 ★EP ---4-463

Cleaning powder pack - in which pack surface is impregnated with perfume

UNILEVER LIMITED 23.03.78-GB-011727

Q34 (03.10.79) B65d-65/42 C11d-03/50

D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

A pack contg. cleaning powder, (at least a part of) the surface of which has been impregnated with a perfume, is new.

Pref. the pack is a carton or drum formed from a blank which has been sprayed with a soln. of perfume in the region corresponding to the headspace in the finished pack.

The pack is esp. for storing cleaning powders (esp. fabric washing powders) which contain components (e.g. bleach) which adversely affect the stability of perfumes incorporated in the powder. However it can also be used with other powder formulations to increase the perfume impact of such formulations.

22.3.79 as 300462 (15pp914)

(E) ISR: —

CHCF D25 07481Y/05 =GB 1553-561

Alkyl ether sulphate cleaning agents - suitable for cosmetic use, e.g. in shampoos

CHEM-Y FAB CHEM PROD 24.07.75-GB-031012

*E12 (03.10.79) *BE-844-284 C11d-01/29 C11d-03/04 +C11d-10/02*

An aq. detergent compsn. comprises an aq. soln. of a mixt. of alkylether sulphate cpds. of formula $RO-(C_2H_4O)_nSO_3M$ (where each R gp. in the mixture is 10-15C alkyl; n has a/n average) value of 1-5; and M is a cation) and contains NaCl as a thickener. The detergent cpd. mixt. has been obtd. by (i) reacting a mixt. of alcohols of formula ROH, provided that in $>$30 wt.% of the alcohols R is abranched chain gp., with ethylene oxide in the presence of an acidic catalyst, and (ii) sulphating the ethoxylated product obtained, the product being neutralised to give the desired salt.

The compsns. are useful in cosmetic applications and as domestic detergents, e.g. in a dishwasher. 22.7.76. (4pp990)

PROC D25 27147Y/16 =GB 1553-610

Low-foam detergent compsns. - contg. nonionic surfactant and silicon-based foam suppressant

PROCTER & GAMBLE CO 14.10.75-US-622304 (14.10.75-US-622303)

*A97 (03.10.79) *BE-847-268 C11d-01/66 C11d-03/37 +C11d-10/02*

Non-liq. detergent compsn. comprises 2.5-100 wt.% of a mixt. of a nonionic surfactant and a self emulsified silicone suds suppressor.

The detergent compsn. pref. comprises as nonionic surfactant (a) condensation prod. of alkyl phenols with 5-20 mols. of ethylene oxide; (b) condensation prod. of 8-22C aliphatic alcohols with 3-18 moles of ethylene oxide; (c) condensn. prod. of ethylene oxide and hydrophobic base formed by condensn. of propylene oxide with propylene glycol, mol.wt. of hydrophobic portion being 1,500-1,800; (d) condensn. prod. of ethylene oxide with prod. of reaction of propylene oxide and ethylene diamine, the mol. wt. of the hydrophobic portion being 2,500-3000 and the condensn. prod. contg. 40-80 wt.% polyoxyethylene or (e) their mixts.

Used for automatic dishwashing. The suds-depressing effect of the silicone is satisfactory andetorage stable. 13.10.76. as 042541 (13pp963)

LIOY ★ D25 72574B/40 ★J5 4107-909

Cleaning compsn. for tableware and clothes - contains an alpha-olefin:sulphonate and an alkene:sulphonate

LION FAT & OIL KK 14.02.78-JA-015613

E17 (24.08.79) C11d-01/14

Cleaner compsn. contains a 10-20C α-olefinsulphonate (I) and a 10-18C alkenesulphonate (II) in the wt. ratio of 95 : 5 - 40 : 60. Not less than 40 wt.% of the surfactants tive agents are Mg salts.

Pref. (I) consists of alkenylsulphonate and hydroxyalk- nesulphonte in the ratio (by wt.) of 40:60 - 90:10 and -13 wt.% of disulphonate. It is prepd. by neutralisation f sulphonic acid of α-olefin obtd. by wax cracking or olymerisation of ethylene in the presence of alkali(ne arth) metal. Pref. (II) is a sec. alkenesulphonate obtd. y sulphoxyidation of n-paraffin and neutralisation. Pref. he compsn. is blended with (in)organic builders, organic helate cpds. (e.g. EDTA), anticaking agent, fluorescent yes, urea, polyethyleneglycol, mono- di- tri-ethanolamide of fatty acid, benzenesulphonate, toluenesulphonate, xy- enesulphonate, benzoate, citrate, mono- di- triethanol- amine, etc.

The compsn. foams well and has good cleaning power. Compsn. is suitable for the cleaning table ware and cloth- es. Environmental pollution is not caused. 14. 2. 78 as 015613 (4pp170)

PROC ★ D25 B/40 ★J5 4108-813

Spray dried detergent composition

PROCTER & GAMBLE CO 02.11.77-US-847983

(25.08.79)

2. 11. 78 as 135665

DUPO D25 02382W/02 =J7 9027-002

Cleansing pastes for vertical surfaces e.g. textiles - contg. porous solid, water, low-and high-boiling solvents

DU PONT DE NEMOURS CO 15.06.73-US-370284

*(07.09.79) *DT2428-032 C11d-07/60*

Non-horizontal surfaces, esp. vertical textile surfaces e.g. curtains and upholstery, are cleaned with paste which consists mainly of (1) 10-40 pts. insol. particulate substances having particle size 10-105 (37-95)µ and oil-value ≥90 (>140), (2) 60-90 pts. liq. component contg. (a) 5-20 pts water, (b) 1-10 pts. high-boiling petroleum distillate solvents, b. pt. 150-250°C and (c) 40-70 pts low-boiling hydrocarbon or halohydrocarbon solvents, b.pt. 35-37°C, (3) 0.1-2 pts. powdered, solid thixotropic agents having particle size 0.007-0.5u (4) 0.01-5 pts. emulsifying surfactants having a hydrophilic-lipophilic balance (HLB) value >8, and (5) 0-7 pts. other solvents, e.g. having anti-freeze or decompsn- inhibiting activity. 14. 6. 74 as 067289 (clg. 15. 6. 73-US-370284) C1ld-7/60 (7. 9. 79) DU PONT (6pp)(J50036507)

DUPO D25 65936W/40 =J7 9027-003

Liquid all-purpose cleanser - contg urea-formaldehyde polymer particles, halogen-contg. solvent, silica and cation-active antistatic agent

DU PONT DE NEMOURS CO 18.03.74-US-452339

*A97 (07.09.79) *DT2511-854 C11d-07/60*

Liq. cleansing compsn. esp. for carpets and upholstery, contains, by wt. (1) 5-30 (10-23) pts. urea-HCHO polymer particles having grain-size 10-105µ and oil-value >90, (2) 70-95 (77-90) pts. halogen-contg. solvent boiling at 45-120°C, where total (1)+(2) make up 100 pts. as well as (3) 0.1-2 (0.5-1) pts. finely divided SiO_2 as settling-inhibitor, (4) 0.1-2 (0.3-1)pts. cation-active antistatic agent and (5) 0-125 (0-50) pts. aerosol-propellant consisting of CCl_3F, CCl_2F_2, $CClF_2CClF_2$, propane, isobutane and/or butane.

Incorporation of cation-active antistatic agent (4) facilitates removal of fine particles by brushing or suction of the textile. 17. 3. 75 as 031247 (+18. 3. 74-US-452339) C1ld- 7/60 (7. 9. 79) DU PONT DE NEMOURS CO (5pp) (J50127905)

PROC D25 68716X/37 =J7 9027-004

An additive for detergents and their compsns. - contg. a vitreous phosphate of specified formula

PROCTER & GAMBLE CO 16.06.75-US-587451 (20.02.75-US-551476)

*A97 E37 (07.09.79) *BE-838-751 C11d-03/06*

A detergent compsn. comprises - (A) 0.1-4% of a vitreous phosphate of formula $(M_2O)_x(P_2O_5)_y$ where M is an alkali metal, y is 5-50 and y:x is from 1:1 to 1:1.5 (B) 5-35% of a mixture of salts based on pyrophosphates and orthophosphates in ratio 1:1 to 200:1, (c) 0-30% of a tripolyphosphate salt (d) 3-30% of an anionic, nonionic, dipolar character or ampholyte surfactant, with the total phosphate in the composition being from 5-35%. Also an additive for detergents comprises 1-90% of (A) above and 10-99% of an organic protecting agent of m. p. 38-95°C. Also, a granular detergent contains 1-15 pts. of the above additive and 85-99 pts. of granular detergent comprising 2-35% surfactant and 10-65% salt additive.

Used in washing powders, the vitreous phosphate has a marked effect, particularly in hard water, of maintaining whiteness by preventing redeposition of soiling matter. Also the quantity of phosphate is less than that required for total sequestering of mineral in hard water and the tendency of the phosphates to form precipitates on washing machine surfaces is reduced. 15. 10. 75 as 123352 (+20. 2. 75, 16. 6. 75-US-551476, 587451) C1ld-3/06 (7. 9. 79) PROCTER & GAMBLE CO (14pp)(J51109003)

KAOS D25 85014Y/48 =J7 9027-005

Cleaning compsn. for removing viscous dirt or wax stains - comprising aq. mixt. of phosphate ester, alkali and anionic and/or nonionic surfactants

KAO SOAP KK 11.05.76-JA-053684

*A97 E11 (E16) (07.09.79) *DT2717-928 C11d-03/60*

Cleaning compsn. comprises (A) 0.1-10 wt.% of >1 organic phosphate ester of formula $O=P\text{-}(O\text{-}(C_2H_4O)_nC_mH_{2m+1}$ (I), (where is 1, 2 or 3, and m is 2, 3 or 4); (B) 0.1-20 wt.% NH_3 or alkanolamine of formula $NH_{n_1}(C_mH_{2m_1}OH)_{3-n_1}$ (II), (where n^1 is 0 or integer 1-3, and m^1 is 2 or 3), or a water-soluble inorganic alkaline agent, esp. Na phosphate, or mixt. (C) 0.1-10 wt.% water-soluble, organic, anionic and/or nonionic surfactant and (D) a balance of water.

Compsns. have high cleansing power and can remove viscous or solid dirt or stains caused by deterioration oxidn. and polymerisation of oils, fats, tar and aged wax films, e.g., used in polishing floors, furniture, shoes and cars. (A), (B) and (C) act synergistically to cause swelling softening, plasticising, emulsification and dispersal of the oily dirt and wax films. 11. 5. 76 as 053684 C1ld-3/60 (7. 9. 79) KAO SOAP KK (4pp)(J52136204)

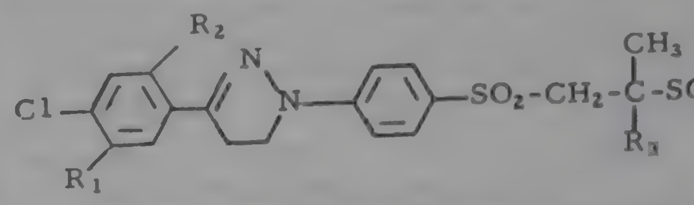
SANO D25 00070X/01 =SU -635-887

Diphenyl pyrazoline cpds. contg. sulphonic acid group - as optical brightening agents pref. for cellulose, polyamide and detergents

SANDOZ AG 18.06.74-CH-008311

*A60 E13 F06 (30.11.78) *BE-830-288 D06c-03/12*

Pyrazoline cpds. of formula (I)(where R_1 is H or Cl; R_2 is H or CH_3; R_3 is H or 1-6C alkyl and M is H or a non chromophoric cation), are optical brightening agents



(I)

which are particularly used for cellulose and polyamide materials having good fastness and a high saturation level and exhibiting red to blue violet fluorescence. Detergents may also contain (I). Schmidt, H. Bul. 44/30. 11. 78. 18. 6. 75. as 145917 (3pp)

PROC ★ D25 73504B/40 ★US 4169-064

Laundry detergent compsns. - contg. organic surfactant and intimate mixt. of starch and polyethylene glycol

PROCTER & GAMBLE CO 23.12.77-US-864133

A97 (A25) (25.09.79) C11d-03/22

Laundry detergent compsn. contains (a) 4-60% by wt. of an organic surfactant (I); and (b) 0.1-8% by wt. of an intimate mixt. of granular, H_2O-insol. starch (II) and polyethylene glycol (III) in wt. ratio (II):(III) = 10-1:1-25. (I) is an anionic, nonionic, zwitterionic or ampholytic detergent or mixts. (II) has average particle dia. of 1-45 um and a swelling power <15 at 65°. (III) has mol. wt. 400-50,000.

Compsns. do not have the disadvantages of known starch-contg. laundry detergents (dustiness, and the prodn. of difficult-to-remove creases in fabrics), and also afford anti-wrinkling and ease-of-ironing props. to treated fabrics. 23. 12. 77 as 864133 (5pp478)

ROBE/ ★ D25 73505B/40 ★US 4169-065

Liquid compsn. for cleaning ears of pets esp. dogs - contg. emulsifier, hydrogen peroxide, acetic acid, alcohol and water

ROBERTSON R D 04.11.77-US-848504

(25.09.79) C11d-07/18

Liquid compsn. comprises an aq. base with up to 0.06% emulsifier (I), 0.3-3% H_2O_2, 0.5-5% acetic acid and 1-35% alcohol solvent, all by vol. Pref. (I) is benzethonium chloride and 0.01-0.06% is present in the compsn. Pref. 0.3-1% H_2O_2, 0.5-5% acetic acid and 1-6% alcohol is present.

Compsn. is useful for cleaning the ears of pets, esp. of dogs, when it is applied directly in undiluted form to the ear and any residue subsequently left is not harmful. 4.11.77 as 848504 (3pp1248)

COLG D25 82204A/46 =US 4169-066

Toilet soap contg. polyethylene oxide and fatty acids - with sodium soaps, pref. free of synthetic detergents

COLGATE PALMOLIVE CO 15.07.77-US-816119

*(25.09.79) *BE-869-002 +C11d-09/22 C11d-15/04*

Toilet bars with soap as the sole detergent have ⩾0.5 wt.% of polyethylene oxide of mol. wt. 100,000-5,000,000 incorporated by (i) preparing a blend of 1 pt. polyethylene oxide and 2-20 pts. 8-20C molten fatty acid, (ii) mixing with neat soap contg. about 30% moisture, (iii) drying to a moisture content of 5-18 wt.% and (iv) shaping the mixt. into a superfatted toilet soap bar.

Pref. the polyethylene oxide has a mol. wt. of 300,000-400,000. Pref. the blend contains sufficient water to reduce the viscosity, but esp. with the water as a dispersed phase and esp. at 0.5-5 pts. per pt. polyethylene oxide.

Prods. give bars with improved lather and feel props. 15.7.77 as 816119 (3pp974)

COLG D25 82204A/46 =US 4169-067

Toilet soap contg. polyethylene oxide and fatty acids - with sodium soaps, pref. free of synthetic detergents

COLGATE PALMOLIVE CO 15.07.77-US-816123

*(25.09.79) *BE-869-002 C11d-09/22 +C11d-15/04*

Novel toilet soap bars consist of Na soaps of 10-20C fatty acids as the sole detergent, 6-12 wt.% superfatting 10-20C fatty acids, 1-4 wt.% polyethylene oxide of mol. wt. 100,000-5,000,000 and 5-18 wt.% water.

Pref. the soap is a 1:2-2:1 by wt. mixt. of tallow and coconut oil soaps and the superfatting acids are a 1:2-2:1 by wt. mixt. of stearic and coco fatty acids.

Prods. give a rich and creamy but only moderately slippery lather and are firm and resistant to sloughing and cracking in use. 15.7.77 as 816123 (4pp974)

HENK D25 72701A/41 =US 4169-074

Textile detergent for use in cold water - comprises N-substd. omega-hydroxyalkane carboxamide, surfactant(s) and powder and/or liquid medium

HENKEL KG AUF AKTIEN 02.04.77-DT-714832

*E16 (25.09.79) *BE-865-562 C11d-03/26 +C11d-07/32*

Novel cold-water active washing compsns. comprise (a) 0.3-2.5 wt.% N-substd. ω-hydroxyalkane carboxylic amide (I); (b) 5-30 wt.% surfactant mixt. (II) at a wt. ratio (a):(b) of 1:50-2; (c) a powdery or liq. carrier at 55-90 wt.% (wrt total) and (d) 0.5-10 wt.% of foam inhibitors, optical brighteners, soil suspension agents, enzymes, antimicrobials, dyes and/or perfumes.

(I) is obtd. by reacting an N-(8-20C)alkyl-diamino (2-6C)alkane with an equimolar amt. of a 3-6C lactone. (II) consist of anionic sulphonates and/or anionic sulphates, nonionic surfactants and opt. soap. The wt. ratio anionic:nonionic surfactants is ⩾1:0.2-5. 24.3.78 as 889990 (9pp974)

HENK D25 31842X/18 =US 4169-0

Stable alumino or boro silicate suspensions contg. dispersants - f fixing calcium and used to prepare washing powders

HENKEL KG AUF AKTIEN 19.06.75-DT-527388 (10.10.74-C 008151)

*A97 E37 (25.09.79) *BE-834-342 C01b-33/28 C02b-01/44 C11 03/17 C11d-11/02*

A powdery, trickleable washing and cleansing agent com is produced by spray-drying an aq. slurry prepd. using aq. suspension having a pH of 7-12 of water-insoluble, calcium-binding aluminosilicates with an improved stabil against settling.

The suspension, which can be pumped after 24 hrs. o standing, consists of (A) 20-50 wt.%, on the anhydrous basis, of ⩾1 crystalline, finely-divided, water-insolubl silicate cpd. having a calcium binding power of ⩾50 mg CaO/g of anhydrous active substance, a primary particle size of 0.1-100 μ, and a formula (combined water not shown) of $(M_2O)_x M'_2O_3.(SiO_2)_y$ (where M is Na or K; x is 0.7-1.5; M' is Al or B; and y is 0.8-6); (B) 0.5-6 wt.% of ⩾1 organic dispersing agent; and (C) the remainder u to 100% water.

Component (B) is selected from the free acids and alkali metal salts of (1) an organic, macromolecular polymer with COOH and/or OH gps., (2) an organic phosphonic aci having ⩾1 further phosphonic or carboxylic acid group, (3) a (3-20C)alkyl and phosphate emulsifier, (4) a nonionic surfactant cpd. having a turbidity point in aq. butoxyethox ethanol according to DIN53917 of <90°C and a turbidity point of 1% soln. in water of below room temp., and (5) a anionic surfactant sulphonate. 1.12.77 as 856244 Div. ex. 4072622 (+7.10.75-US-620387) (14pp990)

LIOY D25 91657A/51 =US 4169-07

Mfr. of clear aq. solns. of anionic surfactant magnesium salts - by adding alkylbenzene sulphonic acid to slurry of surfactant and magnesium base

LION FAT & OIL KK 31.05.77-JA-063514

*E12 (25.09.79) *DT2822-225 C11d-01/12*

A clear aq. soln. of the Mg salt of an anionic surfactant is prepd. by (a) adding alkylbenzene sulphonic acid to an aq. slurry contg. a water-soluble anionic surfactant to provide a clear aq. soln. of pH 2-4, where the ratio of surfactant to alkylbenzene sulphonic acid is 20:80 - 95:5; and (b) adding an alkali metal hydroxide, NH_3 and/or triethanol amine to adjust the pH of the aq. soln. to 5.5-8.

The surfactant is (a) is selected from (i) Na or Mg salts of 8-22C olefin sulphonic acids; (ii) Na salts of 10-15C alkylbenzene sulphonic acids; (iii) Na or Mg salts of 8-22 C alkyl sulphuric esters; and (iv) Na or Mg salts of 8-22C alkyl ether sulphuric esters having an average addn. mole number of ethylene oxide of 1-10, and contg. ⩾1 cpd. selected from Mg oxide and Mg hydroxide.

The soln. can be used in the mfr. of detergents and does not require any further sepn. operations e.g. filtration or centrifugation. 16.5.78 as 906430 (4pp997)

See Also

D21 DS 2521960

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L    A93  *DT 2602-948
   Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L    A93 L02(A21)  *DT 2602-947
   Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
     M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE -832-423   X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF 7502-292   X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or ≠ sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
≠636 36477U  A97[illegible]M14
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A1[illegible]
=650 06289S  A22
≠651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                            49862X/26  *US 3963-654
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                       49433X/26  *DT 2554-327
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                            48076X/26  *CA -990-668
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR	Luxembourg	LU
Australia	AU	Malawi	MW
Austria	OE	Mexico	MX
Belgium	BE	Monaco	MC
Brazil	BR	Netherlands	NL
Bulgaria	BG	New Zealand	NZ
Canada	CA	Norway	NO
Chile	CE	Pakistan	PK
Colombia	CO	PCT	WP
Czechoslovakia	CS	Philippines	RP
Denmark	DK	Poland	PO
Europe	EP	Portugal	PT
Finland	SF	Rhodesia	RH
France	FR	Rumania	RU
Germany, East	DL	South Africa	ZA
Germany, West	DS	South Korea	KS
Germany, West	DT	Spain	ES
Greece	GR	Sudan	SD
Hungary	HU	Sweden	SW
Iceland	IS	Switzerland	CH
India	IN	Syria	SR
Ireland	EI	Trinidad	TD
Israel	IL	Turkey	TR
Italy	IT	Untd. Kingdom	GB
Japan	JA	U.S.A.	US
Japan, unex.	J5	U.S.S.R.	SU
Japan, ex.	J7	Yugoslavia	YU

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-562
4 Substd. 6-epi-fortimicin A and B derivs. - 49417B/27

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-563
2-De:oxy-4-acyl or alkyl fortimicin derivs. - 49412B/27

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-564
2'-N-acyl or alkyl fortimicin A and B derivs. - 51124B/28

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-565
2-Deoxy-N-substd.-fortimicin A and B cpds. - 49527B/27

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-566
Antibacterial antibiotic fortimicin B derivs. - 49414B/27

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =FR 2412-567
3-De-O-methyl-2-N-acyl fortimicin derivs. - 49416B/27

ABBO 21.12.77 ABBOTT LABORATORIES B03 D22 E13 =US 4169-198
2-Deoxy-fortimicin B and its precursors - 47152B/26

AERO- 13.01.69 AEROSOL MIJ HOLLAND B05 D21 =DS 2001-127
Anti perspirant comp in aerosol form with - 50246R/28

AGEN 31.05.74 AGENCY OF IND SCI TECH D15 =J5 0153-456
Treating waste water contg. organic impurities - 32568Y/18

AGEN 31.05.74 AGENCY OF IND SCI TECH D15 =J7 9027-070
Treating waste water contg. organic impurities - 32568Y/18

AGEN 15.10.75 AGENCY OF IND SCI TECH B04 D16 =J7 9027-439
Fixed enzyme prepn. using fibroin carrier - 44420Y/25

* AGEN 13.02.78 AGENCY OF IND SCI TECH A97 B04 D16 *J5 4107-590
Insolubilising enzyme - 72514B/40

AGRO- 29.04.74 AGROTECHNIKA N P D15 =CA 1062-821
Waste water purifn via fluid filter bed of floccules - 60429W/37

* AGRO- 01.03.78 AGRO-IND AMALIA S/A D17 *BR 7801-233
Harvester for sugar cane tops - B/40

AJIN 03.04.75 AJINOMOTO KK D17 =J5 1115-934
Readily dispersible starch prod. - 72971B/40

* AJIN 03.04.75 AJINOMOTO KK D17 *J7 9027-412
Readily dispersible starch prod. - 72971B/40

AJIN 20.02.76 AJINOMOTO KK B05 D16 E16 =SU -638-268
L-Lysine prepn. - 71845Y/40

AJIN 10.06.76 AJINOMOTO KK D13 =J7 9027-888
Fibrous proteinaceous food prodn. - 09339A/05

* AJIN 09.02.78 AJINOMOTO KK A96 B04 D16 *J5 4107-589
Sepn. and purificn. of Staphylokinase - 72513B/40

* ALBE/ 18.08.78 ALBERS T D15 *US 4169-048
Anaerobic fermentation of animal excreta - 73498B/40

ALBR 18.12.73 BUSH BOAKE ALLEN D13 E17 =IT 1032-556
Aromas for non-coagulated milk prods. - 44375W/27

ALBR 06.03.75 BUSH BOAKE ALLEN LT D23 E17 =GB 1553-571
3-Acyl substd derivs of 2,6-dimethylocta-1,7-diene - 73365X/39

ALBR 13.02.78 BUSH BOAKE ALLEN LT D13 =NO 7900-452
Dehydrating organic tissues esp. foods - 59829B/33

ALBR 13.02.78 BUSH BOAKE ALLEN LT D13 =SW 7901-214
Dehydrating organic tissues esp. foods - 59829B/33

ALKU 24.09.76 AKZO NV B04 D16 =US 4169-012
Peroxidase compsns. stabilised with poly-valent metal ions - 23355A/13

ALKU 12.03.77 AKZO NV D22 E36 =OE 7801-663
Disinfectant compsn. for drinks industry - 51652A/29

* ALKU 18.05.78 AKZO NV A96 D21 (A25) *BE -876-276
Copolymers of ethylene oxide and/or propylene oxide - 71727B/40

* ALPI- 30.05.78 ALPI MILCHIND REG D13 *BE -876-622
Preparing whey products equiv. to skimmed milk in protein - 71817B/40

* AMCA 28.04.78 AMERICAN CAN CO D14 E24 G02 *US 4168-662
Jet printing ink for foods and food packaging - 73412B/40

AMCY 19.04.74 AMERICAN CYANAMID CO A96 D22 F04 =CA 1062-573
Styptic surgical felt prodn. - 74394W/45

AMCY 02.02.78 AMERICAN CYANAMID CO B04 C03 D16 (D13) =DT 2902-889
Animal feed supplements for increasing growth rate - 61831B/34

* AMER 29.08.75 AMERACE CORP A97 D16 (D17) *US 4169-014
Immobilising proteinaceous substances, esp. enzymes - 73482B/40

AMMA 17.03.78 AMF INC D18 =DT 2910-461
Reconstituted tobacco leaf contg. fibres, partic. hardwood - 52610B/29

AMMA 17.03.78 AMF INC D18 =NL 7902-098
Reconstituted tobacco leaf contg. fibres, partic. hardwood - 52610B/29

AMMA 15.03.79 AMF INC D18 =GB 2016-899
Reconstituted tobacco leaf contg. fibres, partic. hardwood - 52610B/29

* ANDE/ 13.03.78 ANDERSSON B A E A96 D21 *DT 2909-666
tooth cleaner comprises piece of plastics elastic polyolefin foam - 72061B/40

* ANDR/ 26.12.77 ANDRIEUX-VAQUIE R A21 C03 D13 H09 (A81 A95) *FR 2412-268
Solidification of liquids, powders etc. - 72195B/40

ANIS 23.02.76 ANIC SPA D15 E13 =OE 7701-172
Bis- and tris-guanyl hydrazonium salts - 61168Y/35

ARIA/ 25.01.78 VAZOUEZ ARIAS J D15 =GB 2017-074
Prevention of corrosion and scaling inside water pipes - 52561B/29

ARLA- 16.02.78 MJOLKCENTRALEN ARLA D13 =SW 7801-821
Refining of dried whey products for improved flavour - 64892B/36

* ASAH 08.02.78 ASAHI CHEMICAL IND KK B04 D16 *J5 4107-510
Prodn. of plasminogen-activating substance - 72486B/40

* ASAH 10.02.78 ASAHI CHEMICAL IND KK B04 D16 *J5 4107-511
Prodn. of plasminogen-activating factor - 72487B/40

* ASAH- 23.03.78 ASAHI ENG KK D15 F09 J04 *DT 2911-113
Aq. salt soln. disposal - 72092B/40

ASAH- 23.03.78 ASAHI ENG CO LTD D15 F09 J04 =GB 2017-281
Aq. salt soln. disposal - 72092B/40

ASPR 03.02.76 NICHOLAS PTY LTD A96 D22 F07 =GB 1553-633
Incontinence substrate with urine-permeable top layer - 56051Y/32

* ASPR 31.05.78 NICHOLAS PTY LTD A96 B04 D21 (A11) *BE -876-639
Inhibition of dental caries with cationic polysaccharide - 71825B/40

* ATOC 22.01.76 ATOMIC ENERGY CANAD LTD D15 K05 *CA 1062-590
Decontaminating heavy water reactor coolant systems - 71849B/40

* BACH/ 23.03.78 BACHHOFER B D15 *DT 2812-794
Swimming pool water treatment - 72003B/40

BAHR/ 05.08.76 BAHR A D15 =OE 7705-558
Continuous dewatering filter plant for waste water sludge - 86658Y/49

BAKP 15.02.78 BAKER PERKINS HOLDI D11 =DK 7900-663
Bowl mixer with rotary and planetary action agitator - 44099B/24

BAKP 15.02.78 BAKER PERKINS HOLDI D11 =NO 7900-468
Bowl mixer with rotary and planetary action agitator - 44099B/24

BALD/ 30.11.77 BALDUS O G D15 =DS 2753-311
Sea water desalination - 42613B/23

* BAMA- 26.05.78 BAMACH BV D14 *BE -876-411
Conveyor forming of meat olive, tortilla etc. - 71762B/40

BATT 14.02.78 BATTELLE MEMOR INST C02 D13 =NO 7900-466
Lactoyl-urea and n-methylol-lactoyl urea prepn. - 61866B/34

* BAUE/ 22.03.78 BAUER W D12 *DT 2812-536
Double screw meat mincing machine - 71980B/40

* BAUM- 22.03.78 BAMA-WERKE BAUMAN C A83 D22 *DT 2812-474
Shoe inlay sole - 71977B/40

BEEC 27.01.77 BEECHAM GROUP LTD D22 E34 =GB 1553-739
Body deodorant compsn. contains sodium or potassium bi:carbonate - 57122A/32

* BEEC- 03.01.78 BEEHIVE MACH INC D13 *US 4169-166
Potato mash prodn. - 73556B/40

BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =DK 7900-550
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26

BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =NO 7804-422
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26

BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =SW 7901-081
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26

* BEKI 21.03.77 BELORUSS KIROV TECHN INS D16 *SU -639-927
Microorganisms culture growth unit - 73110B/40

* BERD= 29.12.76 BERDYANSK PETRO-OIL D18 *SU -641-002
Leather chemical treating compsn. - 73200B/40

BERP 20.05.74 BEROL KEMI AB A97 D25 E19 =IT 1032-912
Detergents with softening and antistatic activity - 80577W/49

BEWA- 17.05.77 INST BEWARING LANDB D17 E13 =US 4168-988
Xylose prodn. from annual plant residues e.g. straw - 84084A/47

BIMA- 23.06.77 BIMAK SRL D13 =OE 7804-285
Domestic ice cream machine with two separate mixing bowls - 76374A/43

* BIOC= 13.05.77 BIOCHEM RES INST D16 *SU -639-937
Air microbial contamination tester - 73113B/40

BIOS- 23.03.74 BIOSCAL GMBH B04 D16 =CA 1062-611
Oral, anti-uraemic therapeutic compns - 54048W/33

* BIOT 26.05.78 BIOTEST SERUM INST GMBH B04 D16 *BE -876-567
Culture flask for collecting liq., esp. urine, for germ, count - 71802B/40

BLUE- 21.12.77 BLUE WING CORP C03 D13 (C04) =FR 2412-266
Dry fertiliser, animal feed or human feed prodn. - 47150B/26

BMBR- 29.03.77 BM DEI FLLI BRAVO D13 =OE 7802-184
Spaghetti-like ice cream extrusion machine - 73130A/41

* BMEA= 08.07.77 BELO MEAT IND RES D12 *SU -641-952
Lifting meat carcasses from suspension track - 73312B/40

BOEF 30.12.76 BOEHRINGER MANNHEIM GMBH D13 J07 =OE 7709-406
Freeze drying granules of foods, drinks and pharmaceuticals - 47728A/27

BOEF 20.03.78 BOEHRINGER MANNHEIM GMBH A89 B04 D16 J04 =DT 2812-154
Analytical determn. of alpha amylase - 69916B/39

BOEH 30.11.76 BOEHRINGER C H SOHN D13 =OE 7708-332
Foam-stabilising agent for frothy drinks, esp. beer - 38515A/22

* BONA/ 23.12.77 BONANOMI G D14 *FR 2413-018
Domestic roaster for coffee beans, chestnuts, barley etc. - 72230B/40

BONG- 18.02.77 LES FILS BONGARD D11 =DS 2731-812
Automatically retractable loading ramp for bakers ovens - 77608Y/44

* BORD 13.02.75 BORDEN INC D13 *US 4169-160
Dried soft curd cheese contg. alpha-cellulose - 73551B/40

* BOUR/ 04.09.72 BOURNIER E D16 *FR 2412-263
Treating mushrooms for freezing, under vacuum - 72194B/40

BRAM/ 17.02.78 BRAMS S A31 D14 J02 =DK 7800-714
Drum for mixing and delivering solid materials - 63400B/35

BRAM/ 17.02.78 BRAMS S A31 D14 J02 =SW 7901-394
Drum for mixing and delivering solid materials - 63400B/35

BRDM 30.05.74 BIRD MACHINE CO D15 F09 J01 =IT 1032-997
Screening machine for separating light slurry particles - 72315W/43

BREV 24.12.77 BREVETEAM SA C03 D15 J04 K07 (D22 J01) =FR 2412-405
Flexible stratified mass transfer element - 31612B/17
BRIM 23.06.75 BRISTOL MYERS CO D16 (D13) =CA 1062-535
Aq. purified soy protein of reduced phytic acid content - 94196X/50
BRIM 13.07.77 BRISTOL MYERS CO B02 D16 =US 4169-096
Antibiotics Bu-2313A and Bu-2313B - 09321B/05
BRIU 01.11.73 BRIDGESTONE LIQUEF GAS D16 H04 =J7 9027-896
Brevibacterium cells prodn. - 68009W/41
BROU- 17.03.78 HOLDING BROUWER M CO BV D12 =DT 2910-394
Appts. for sepg. meat scraps from bones - 70355B/39
BROU- 17.03.78 HOLDING BROUWER M & D12 =NL 7802-947
Appts. for sepg. meat scraps from bones - 70355B/39
*BRTA 16.05.78 BRIT AMER TOBACCO LTD D18 *BE -876-291
Tobacco smoke filter pref. for cigarettes - 71731B/40
*BRTO 15.02.78 BOC LTD D15 J01 *GB 2016-947
Liquid degassing appts. e.g. for sewage - 72249B/40
BUNZ 30.06.77 BUNZL & BIACH AG A96 D22 F04 =OE 7704-665
Wound dressing material formed of wet-laid nonwoven fabric - [illegible]
*BURK/ 13.03.78 BURKLIN W D16 *DT 2810-892
Compost dump aeration system - 71884B/40
BURK/ 14.03.78 BURKLIN W D16 (D15) =DT 2810-911
Composting material depository - 68454B/38

*CADB 23.12.77 CADBURY TYPHOO LTD D13 *GB 2016-896
Solid, sterilised, texturised vegetable protein prods. - 72240B/40
CALI- 14.08.75 CALIFORNIA PROCESSI D13 =US 4168-658
Mechanised halving and stoning of peaches etc. - 36741Y/21
*CALY 17.03.78 CALIFORNIA INST OF TECHN A26 B04 D16 J04 (A96) *DT 2910-414
Poly:glutaraldehyde prepn. esp. as protein reactive microspheres - 72078B/40
CALY 17.03.78 CALIFORNIA INST OF TECHN A26 B04 D16 J04 (A96) =GB 2017-125
Poly:glutaraldehyde, prepn. esp. as protein reactive microspheres - 72078B/40
CAMB- 12.10.72 CAMBRIAN ENG GP LTD D23 J08 =IT 1032-512
Heat and mass transfer reactor - 11432V/07
CAME- 14.03.78 CAMELIA MFG CO LTD A96 D22 =GB 2016-928
Disposable plastics splint or stretcher - 68493B/38
CAMP- 09.05.77 CAMPBELL SOUP CO D13 (D12) =US 4168-657
Texturising vegetable protein using steam injection - 55773Y/31
CAMP- 28.02.78 CAMPBELL SOUP CO D13 =GB 2016-900
Biologically stable food, esp. soup concentrate - 66564B/37
*CARR/ 23.12.77 CARRON J D11 *FR 2412-269
Fruit cakes, esp. tarts and flaws - 72196B/40
CELA 13.03.78 CELANESE CORP A97 C02 D18 E13 (D13) =DT 2909-547
Polymer encapsulated alkaloid(s) esp. tobacco alkaloid(s) - 68596B/38
CELA 13.03.78 CELANESE CORP A97 D18 (A18) =GB 2016-897
Tobacco substitute contg. cellulose deriv. - 70271B/39
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =NL 7901-704
Cellulose acetate foam cigarette filter rod - 68589B/38
CERV 01.07.75 CERAVER SA A96 D22 #BE -876-682
Metal rod as prosthetic insert into a bone shank - 07938Y/05
CHAJ/ 20.02.78 CHAJUSS D D13 =GB 2016-893
Edible, fibre-contg. prod. from soybean husks - 63390B/35
CHCF 24.07.75 CHEM-Y FAB CHEM PROD D25 E12 =GB 1553-561
Alkyl ether sulphate cleaning agents - 07481Y/05
CHCO- 06.02.74 CHEMICAL CONSULTS LTD D22 =CA 1062-447
Destruction of odours with acid solns of oxidants - 44439W/27
CHET 28.11.75 CHEMETRON CORP D12 =CA 1062-539
Mechanical sepn. of meat and bone by screening - 23641Y/14
CHIM- 27.01.78 CHIMICASA GMBH B05 C03 D16 (D13) =SW 7900-727
Terpene(s) steam-distilled from aromatic plants - 40655B/22
*CNDG 19.08.74 CANADIAN MIN OF AGR A97 D13 (A25) *CA 1062-538
Preventing potatoes exposed to light from turning green - 71848B/40
COEN 18.02.76 COMBUSTION ENGINEERING D15 J01 =CA 1062-648
Apparatus for purifying liquid - 71329Y/40
COLG 10.07.74 COLGATE PALMOLIVE CO D24 =CA 1062-421
Marbled toilet soap mfr. - 80315W/49
COLG 15.07.77 COLGATE PALMOLIVE CO D25 =US 4169-066
Toilet soap contg. polyethylene oxide and fatty acids - 82204A/46
COLG 15.07.77 COLGATE PALMOLIVE CO D25 =US 4169-067
Toilet soap contg. polyethylene oxide and fatty acids - 82204A/46
COLG 17.03.78 COLGATE PALMOLIVE CO A97 D25 E19 =NL 7900-106
Conc. single phase liq. detergent-softener compsn. - 17866B/09
*COLG 19.05.78 COLGATE PALMOLIVE CO A96 D21 E19 (A25) *BE -876-314
Transparent gel dentifrice of specified compsn. - 71735B/40
*COLG 19.05.78 COLGATE PALMOLIVE CO D21 E37 (E24) *BE -876-315
Dentifrice of specified compsn. contg. fluoride and colourant - 71736B/40
*COLG 25.05.78 COLGATE PALMOLIVE CO A96 D21 E19 (A25 E33) *BE -876-425
Dentifrice paste compsn. contg. calcium carbonate - 71767B/40
*[illegible] *BE -[illegible]
Polyurethane foam dispenser - 71792B/40
COLG 25.05.78 COLGATE PALMOLIVE CO D25 E19 F06 =BE -876-537
Liq. bleach and fabric softening compsn. - 68037B/37
*COLG 30.05.78 COLGATE PALMOLIVE CO D21 E33 *BE -876-612
Extrudable opaque dentifrice paste - 71814B/40
*CONS/ 22.03.78 CONSTANCE R J D14 *GB 2016-909
Spit roasting appts. - 72242B/40
COOR- 22.12.77 COORS FOOD PROD CO D13 (D16) =FR 2412-264
Edible yeast product used as cocoa substitute - 47147B/26
*CORP 05.12.74 CPC INTERNATIONAL INC D16 (D17) *US 4169-013
Glucoamylase prepn. - 73481B/40
*COUL/ 28.03.78 COULTHARD J L A97 D15 *GB 2017-075
Biological filter substrate - 72267B/40
CROA/ 17.02.78 CROASDELL D F D12 =DK 7900-687
Separating the cheek muscles of a pigs head - 63417B/35
*CUCC/ 19.02.75 CUCCI B D11 *IT 1032-575
Dough smoothing appts. - B/40

DASP- 17.02.78 DANSKE SPRITFABRIKE D13 E34 =DK 7800-722
Peeling fruit and vegetables - 63401B/35
*DASP- 17.02.78 DANSKE SPRITFABRIKK D13 *DK 7800-723
Fruit and vegetables peeling process - B/40
DASP- 17.02.78 DANSKE SPRITFAB D13 E34 =NO 7900-428
Peeling fruit and vegetables - 63401B/35
DASP- 17.02.78 DANSKE SPRITFABRI A D13 E34 =SW 7900-408
Peeling fruit and vegetables - 63401B/35
DASU- 28.09.76 DANSKE SUKKERFABRIK D17 J01 =OE 7706-928
Continuous vertical crystalliser with axial tubular cooler - 25704A/14
DAVI/ 23.11.77 DAVIES T M C B04 D16 =J5 4107-595
Metabolite extraction from cells by shock excretion - 46041B/25
*DAYL- 20.04.78 DAYLIN INC C03 D13 *US 4169-162
Soft moist heat treated food for zoo animals - 73553B/40
DEGS 11.11.76 DEUTSCHE GOLD & SILBER D25 E34 =OE 7708-035
Sodium percarbonate particles coated with dehydrated sodium perborate - 34984A/20
DEGS 23.12.77 DEUTSCHE GOLD & SILBER D15 =FR 2412-505
Deodorising industrial and urban waste water sludges - 47180B/26
*DEUT/ 30.05.78 DEUTSCH D H D15 J01 (D16) *BE -876-657
Microporous element promoting fluid flow without pumping - 71830B/40
*DHVR- 18.05.78 DHV RAADGEVEND INGE D15 *BE -876-331
Lowering the phosphate content of effluent water - 71739B/40
DMAR/ 14.05.68 DE MARTINI M D13 =DS 1918-130
Centrifugal extraction of olive oil - 20522R/13
*DNAG= 11.05.76 DNEPR AGRIC INST C04 D16 *SU -642-279
Fertiliser prodn. from aq. effluent sediment and household waste - 73381B/40
*DNII 09.02.78 DAINIPPON INK INST CHEM D16 *J5 4107-582
Actinomyces mycelium prodn. - 72507B/40
*DNIN 09.02.78 DAINIPPON INK CHEM KK D16 *J5 4107-582
Actinomyces mycelium prodn. - 72507B/40
*DORO 03.01.77 DORR OLIVER INC D15 J09 *US 4168-670
Sewage sludge incineration using high sulphur fuel - 73414B/40
DRED 20.12.77 VEB ARZNEIMITTEL DRESDEN B02 D16 =FR 2412-546
Recovering ergot alkaloid(s) from culture suspension - 54811B/30
DRES 14.07.77 DRESSER INDUSTRIES INC D15 =FR 2412-333
Sludge siphon collector for settling tank - 06444B/04
DUPO 15.06.73 DU PONT DE NEMOURS CO D25 =J7 9027-002
Cleansing pastes for vertical surfaces e.g. textiles - 02382W/02
DUPO 18.03.74 DU PONT DE NEMOURS CO A97 D25 =J7 9027-003
Liquid all-purpose cleanser - 65936W/40
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =DK 7900-640
Sepn. of creatine kinase isoenzyme(s) - 61783B/34
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =NO 7900-482
Sepn. of creatine kinase isoenzyme(s) - 61783B/34
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =SW 7900-648
Sepn. of creatine kinase isoenzyme(s) - 61783B/34
*DURA/ 26.04.78 DURAN V D12 *OE 7803-014
Boiling resistant wrapping for foodstuff - B/40
DYNL 18.11.76 DYNAPOL A97 D13 E24 =US 4169-203
Increasing solubility of polymeric dyes contg. amino gps. - 23389A/13
DYNL 22.12.77 DYNAPOL B05 D13 E14 (E12) =FR 2412-522
4-3-Sulpho-4,5-di:hydroxy-hexyl:oxy 4′-alkoxy di:hydro-chalcone(s) - 31634B/17
*DYNN 19.05.78 DYNAMIT NOBEL AG B04 D16 *BE -876-354
Regeneration of enzyme immobilisates - 71746B/40

*EBAI 16.02.78 EBARA INFILCO KK D15 K08 *J5 4109-244
Organic sludge, e.g. sewage, treatment - 72824B/40
*EBAI 16.02.78 EBARA INFILCO KK D15 K08 *J5 4109-245
Nitrogen contg. organic waste water treatment - 72825B/40
ECOR- 14.03.78 ECO-RES LTD A88 D15 =GB 2017-073
Flexible down pipe in biological sewage treatment plant - [illegible]
*EDEL 16.03.78 EDELFETTWERKE SCHLUTER D13 *DT 2811-353
Roast coffee and coffee concentrate mixt. - 71906B/40
*EGER/ 29.03.78 EGER G D16 *BE -875-161
Mono:karyons prodn. from di:karyotic Basidiomycetes strains - 71712B/40

GYE 31.03.76 EGYT GYOGYSZERVEGYESZETI A11 B04 D13 E12 (A96 A97 3) =GB 1553-749
Metal oligo- and poly-galacturonate complexes - 75406Y/42
NH- 29.10.76 FA EINHELL H D15 J03 =US 4169-035
Electrolytic cell for water treatment - 33657A/19
LIL 09.06.76 ELI LILLY & CO B02 D16 =OE 7704-023
(1)-Hydroxy-(6,6)-dimethyl-hexahydro-(9H) dibenzo (b,d)-pyran derivs. - 86592Y/49
RAP 23.04.74 ENTR RECH PETROLES B05 D16 E17 (D13) =IT 1032-739
L-Lysine enriched yeasts and citric acid cultivation - 60417W/37
RAP 08.03.78 SOC NAT ELF AQUITAI A28 C03 D15 F06 (A87 A91) =GB 2017-106
Addition polymer with lateral beta-hydroxy poly:sulphonium gps. - 66337B/37
ERIC/ 13.02.78 ERICKSON L G A91 D15 =SW 7901-092
Processing of waste waters - 54379B/29
ESPE 14.10.76 ESPE FAB PHARM PRAPARATE A14 D21 E14 (A96) =GB 1553-580
UV polymerisation of acrylic ester dental compsn. - 38384Y/22
ESPE 03.01.78 ESPE FAB PHARM PRAPARATE A96 D21 (A14) =J5 4109-295
Opaque dental filling materials - 51165B/28
EVAL/ 27.06.78 EVALANDI P D22 *BE -876-406
Deodorising compsn. for ash trays - 71759B/40
EVRA/ 23.12.77 EVRARD J E M D13 =FR 2412-463
Pasty food packaging machine e.g. for soft cheese - 51111B/28
*EXCE 16.05.78 EX-CELL-O CORP D22 (D13) *BE -876-292
Prefilling sterilisation of milk containers with bactericidal aerosol - 71732B/40

FARB 30.11.71 BAYER AG A60 D18 E21 F06 =J7 9027-372
New polyazo dyes - 35355U/25
FARB 28.01.76 BAYER AG B03 C01 D22 =SU -641-861
Insecticidal and acaricidal pyridazinyl phosph(on ate cpds. - 55980Y/32
FARB 21.02.78 BAYER AG A97 B05 D16 (A14) =DK 7900-731
Phenyl-glycine derivs. enzymatic optical resolution - 63329B/35
FARB 07.03.78 BAYER AG A88 D15 J01 (A14) =EP ---4-287
Semipermeable membranes based on acrylonitrile copolymer - 68262B/38
*FARB 17.03.78 BAYER AG D15 *DT 2811-719
Biochemically reducing (in)organic materials in waste water etc. - 71922B/40
FARB 17.03.78 BAYER AG D15 =EP ---4-304
Biochemically reducing (in)organic materials in waste water etc. - 71922B/40
FARH 02.03.76 HOECHST AG D16 J02 (D15) =OE 7701-312
Mass transfer in liq. medium improved by inert solid particles - 63043Y/36
FARH 22.12.77 HOECHST AG A96 B04 D16 =FR 2412-613
Prodn. of insulin producing cell line - 49536B/27
FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) =DK 7900-639
Solid cleaning prod. for glass, esp. car windows - 59824B/33
FARH 15.02.78 HOECHST AG A97 D25 E11 (E34) =SW 7901-313
Solid cleaning prod. for glass, esp. car windows - 59824B/33
FARH 15.03.78 HOECHST AG D15 J04 =NL 7902-041
Organic cpd. carbon determination in water - 70181B/39
FARM= 14.02.78 FARM ANIMALS REARIN D13 #SW 7801-726
Pasteurising and cooling plant for milk - 58086B/32
FIRM 04.02.74 FIRMENICH SA B03 C02 D23 E15 (D16 D18 D21) =DS 2504-618
1-Oxa-spiro-(4,5)-decane-6-ol and its esters - 55957W/34
FIRM 12.02.74 FIRMENICH SA D18 E13 =DS 2505-157
Aromatising tobacco or tobacco substitutes - 55989W/34
FIRM 20.01.78 FIRMENICH SA D23 E13 =J5 4109-978
Cyclohexyl pentanolide derivs. for perfumery - 56570B/31
*FIRM 16.03.78 FIRMENICH SA B02 D13 E13 *EP ---4-352
1,6-Naphthyridine and alkyl derivs. - 72125B/40
FRES- 14.11.77 FRESENIUS CHEM PHAM A97 D15 J01 =J5 4109-088
Ion-selective membranes contg. siloxane in an inert carrier - 39244B/21
*FRIT- 14.03.78 FRITZSCHE DODGE & O D23 E15 (E14) *NL 7902-042
1,2,3-Tetra:hydro-benzyl carboxylate ester(s) - 73016B/40
FUSO- 21.05.73 FUSO KK D15 =J5 0005-275
Deodorising sewage gases - 73004B/40
*FUSO- 21.05.73 FUSO KK D15 *J7 9027-838
Deodorising sewage gases - 73004B/40
*FUSO- 13.02.78 FUSOH KAGAKU KOGYO B05 D23 E14 M11 *J5 4109-937
Benzaldehyde and alkyl-phenone cpds. prodn. - 72878B/40
*FUTA- 30.06.77 FUTABA BUSSAN KK D12 *J5 4107-548
Dried poultry meat prepn. - 72503B/40

*GENO 22.03.72 GENERAL FOODS CORP D13 (D12) *US 4169-161
Meat analogues contg. no spun protein fibres - 73552B/40
GENO 30.09.76 GENERAL FOODS CORP D13 =US 4169-090
Protein isolate or micelle prepn. - 27209A/15
*GENO 21.03.78 GENERAL FOODS CORP D13 *GB 2016-894
Stable, neutral aq. protein dispersions - 72239B/40
*GENO 21.03.78 GENERAL FOODS CORP D13 *GB 2017-146
Acidic proteinaceous beverages - 72283B/40
GIVA 15.11.72 GIVAUDAN L & CIE SA D23 E15 =J7 9027-409
1-Isopropenyl-spiro-decen- or -decan-8-ones - 40237V/22
GOLD 28.07.77 GOLDSCHMIDT TH AG B05 C03 D13 E17 =US 4169-102
Lactic acid, citric acid and fatty acid partial glyceride mixed ester - 86200A/48
GOLD- 05.11.74 GOLD KIST INC D13 (D23) =CA 1062-727
Oil extraction of vegetable protein materials - 16897X/10
*GRAC 24.05.78 GRACE W R CO D21 E36 *BE -876-505
Dentifrice contg. hydrated silica gel polishing agent - 71785B/40
*GREE- 28.10.77 GREEN GIANT CO D13 *US 4168-642
Broccoli spear quartering appts. - 73411B/40
GRFJ 18.12.75 GRIFFITH LABS INC D13 #US 4169-159
Decolouring moist heat treated pea flour - 08089B/05
*GUIL/ 28.03.78 GUILLOT J A96 B07 D21 *EP ---4-514
Mouldable cutaneous electrode - 72191B/40

HARR/ 12.05.77 HARRINGTON D E D18 F09 #CA 1062-577
Disposable holder for cigarette is exposed during smoking - 20359B/11
HART/ 13.08.77 HARTWICK N J R D15 J01 #GB 1553-758
Skimmer for removing oil from water surface - 42032A/23
*HAUN 15.03.78 HAUNI-WERKE KORBER KG D18 J01 *DT 2811-176
Compact filter rod for cigarettes - 71893B/40
HEBE- 12.03.76 HEBENSTREIT GMBH D11 =OE 7606-840
Multilayer wafer blocks prodn. - 69103Y/39
HENK 16.09.69 HENKEL KG AUF AKTIEN A21 D18 (A97) =J7 9027-401
Tawing agent for leather based on chlorina- - 20191S/11
HENK 04.12.71 HENKEL KG AUF AKTIEN D21 E23 =DS 2160-318
Human hair dyeing compsns - 35086U/25
HENK 22.04.74 HENKEL KG AUF AKTIEN D25 E36 G04 =IT 1032-732
Scouring powder contg. calcium-bonding alumino or boro-silicates - 74395W/45
HENK 03.05.74 HENKEL KG AUF AKTIEN D25 =IT 1032-799
Aq. baths for washing textiles - 75749W/46
HENK 18.05.74 HENKEL KG AUF AKTIEN A97 D25 E16 (A25) =IT 1032-909
Ethoxylated amino-alcohol surfactant - 80229W/49
HENK 10.10.74 HENKEL KG AUF AKTIEN A97 D25 E37 =US 4169-075
Stable alumino or boro silicate suspensions contg. dispersants - 31842X/18
HENK 26.05.76 HENKEL KG AUF AKTIEN D21 E13 =US 4168-953
Oxidising dyes for hair - 84706Y/48
HENK 25.02.77 HENKEL KG AUF AKTIEN D21 E24 =US 4168-952
Dyeing keratinous materials e.g. human hair - 63799A/36
HENK 02.04.77 HENKEL KG AUF AKTIEN D25 E16 =US 4169-074
Textile detergent for use in cold water - 72701A/41
HENK 22.12.77 HENKEL KG AUF AKTIEN D21 E19 =FR 2412-518
Mono- and di:carboxylic acid 2-hydroxy-alkyl ester(s) - 51272B/28
HENK 23.12.77 HENKEL KG AUF AKTIEN D23 E17 (D21 D25) =FR 2412-308
3,5,5-Tri:methyl hexanoic acid ester(s) used as aromatic materials - 47163B/26
*HENK 23.03.78 HENKEL KG AUF AKTIEN D21 E23 *EP ---4-368
Hair dyeing compsns. - 72134B/40
*HENK 25.03.78 HENKEL KG AUF AKTIEN D21 E13 *EP ---4-366
Hair dyeing compsns. - 72133B/40
*HENK 25.03.78 HENKEL KG AUF AKTIEN D16 *GB 2016-996
Extruding live yeast granulate - 72257B/40
*HERA 30.11.78 HERAEUS W C GMBH A81 D21 M13 (A11) *DS 2851-729
Facing dental prosthesis esp. of gold alloy - 71868B/40
HERC 23.05.75 HERCULES INC A11 D16 =CA 1062-581
Gel biological prepn. from polysaccharide - 06530Y/04
*HIEJ 16.02.78 HITACHI PLANT ENG CONST D15 *J5 4109-247
Cleaning organic waste water, e.g. from fermentation - 72827B/40
*HIEJ 16.02.78 HITACHI PLANT ENG CONST D15 *J5 4109-248
Decolourising deodorised waste water - 72828B/40
*HILB 23.12.77 HILLS BROS COFFEE INC D13 *US 4169-164
Coffee bean roasting process - 73554B/40
*HITB 10.02.78 HITACHI CHEMICAL KK B02 D16 (B04 B05) *J5 4107-594
NAD and glutathione prodn. - 72517B/40
*HITB 15.02.78 HITACHI CHEMICAL KK A91 D15 E16 (E14) *J5 4109-246
Water purificn. - 72826B/40
HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =NO 7900-469
Trestatin amino sugar derivs. - 61777B/34
HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =SW 7901-276
Trestatin amino sugar derivs. - 61777B/34
*HOHN 10.02.78 HOHNEN OIL KK D13 E11 (D23) *J5 4107-530
Inhibiting brown colouration of phospholipid on heating - 72500B/40
*HOHN 14.02.78 HOHNEN OIL KK D13 *J5 4107-908
Hot plate cooking oil prepn. - 72573B/40
*HOHN 15.02.78 HOHNEN OIL KK D13 *J5 4108-810
Prodn. of edible oil for cooking and baking on iron plate - 72709B/40
*HOHN 18.02.78 HOHNEN OIL KK D23 E11 *J5 4109-920
Inhibiting browning of phospholipid due to heating - 72874B/40
HONE- 10.02.78 HONEY BEE KK D13 =J5 4107-555
Soft drink contains full milk - 61699B/34

HONE- 10.02.78 HONEY BEE KK D13 =J5 4107-556
Soft drink contains full milk - 51599B/34

HOUS- 11.03.77 HOUSE SHOKUHIN KOGY D13 =J7 9027-416
Preventing green colouration of garlic paste - 80928A/45

HUBE 03.12.73 HUBER J M CORP D21 E36 =CA 1062-439
Prodn. of precipitated silicon dioxide for glutinous agent - 50210W/30

HUBE 20.12.77 HUBER J M CORP D21 E33 =FR 2412-307
Abrasive silica compsn. for dentifrice paste - 67037A/38

ICHW 02.10.75 ICHIKAWA WOOLEN TEX LTD D15 =DS 2638-541
Continuous thickening and dewatering of slurries - 27463Y/16

ICIL 11.03.74 IMPERIAL CHEM INDS LTD D15 H03 J01 =CA 1062-627
Oil removal from oil-in-water emulsions - 64017W/39

ICIL 23.12.77 IMPERIAL CHEM INDS LTD C03 D22 G02 H08 (D15 G03) =FR 2412-526
1-Thiocyanato-8-substd. naphthalene biocides - 47159B/26

*ICIL 23.03.78 IMPERIAL CHEM INDS LTD A25 D15 H03 (A97 H08) *EP ---4-426
Surfactant compsn. for emulsifying oils in aq. media - 72160B/40

*INFL 26.05.77 INT FLAVORS & FRAGR INC D23 E14 (E15) *US 4169-072
Augmenting or enhancing perfume or cologne aroma - 73507B/40

*INFL 27.02.78 INT FLAVORS & FRAGR INC D23 E15 *US 4169-073
Augmenting or enhancing perfume or cologne aroma - 73508B/40

*INFL 10.08.78 INT FLAVORS & FRAGR INC D23 E17 (D13) *US 4169-109
Prepn. of alpha,beta-unsatd. ketone(s) useful as flavours and odorants - 73527B/40

*INNO- 16.02.78 INST INNOVATIONSTEK C04 D16 *SW 7801-789
Fertiliser pellets mfr. from mixt. of slurry and waste material - B/40

INSF 23.04.74 INST FRANCAIS DU PETROLE B05 D16 E17 (D13) =IT 1032-739
L-Lysine enriched yeasts and citric acid cultivation - 60417W/37

INSF 11.03.77 INST FRANCAIS DU PETROLE D15 G04 (D18) =US 4169-052
Cleaning media or surfaces contg. oils, fats or organic cpds. - 65283A/37

*INTE 23.03.78 INTEROX CHEMICALS D16 M25 *EP ---4-431
Bacterial leaching of ores, esp. ferrous sulphide ores - 72162B/40

ISHI- 20.12.77 ISHIGAKI KIKO KK D15 =FR 2412-502
Sewage sludge dewatering filter press - 47396B/26

ITER- 12.04.74 ITERG INST DES CORPS GRAS D23 (D13) =IT 1032-651
Selective vegetable oil hydrogenation - 72788W/44

ITER- 12.04.74 ITERG INST CORPS D23 (D13) =US 4169-101
Selective vegetable oil hydrogenation - 72788W/44

JAGN 24.12.77 JAGENBERG WERKE AG D14 =FR 2412-344
Automatic dispenser of tiny doses of liq. - 31645B/17

*JAOR 08.02.78 JAPAN ORGANO KK D13 *J5 4107-560
Gelling agent prodn. for food - 72505B/40

JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A97 D18 F04 J01 =FR 2412-272
Cigarette filter contg. cellulose di-acetate and cellulose fibres - 04098B/03

JOBB 23.12.77 SOC JOB ANC ETAB BARDOU A88 D18 F04 (A11) =FR 2412-274
Mfg. synthetic fibre sheet for cigarette filter tips - 18063B/10

JOHJ 14.05.73 JOHNSON & JOHNSON A96 D22 F04 =OE 7403-969
Multilayer absorbent surgical dressing - 82644V/48

JOHJ 03.11.75 JOHNSON & JOHNSON A60 D21 E15 =CA 1062-700
Totally trans retinoic acid esters and amides - 32746Y/19

JOHJ 20.12.77 JOHNSON & JOHNSON D22 =FR 2412-276
Baby's disposable napkin with elastic edges - 47160B/26

*JURG/ 15.03.78 JURGENS E B05 D13 *DT 2811-222
Invigorating and disease-preventing foodstuff - 71896B/40

*KALI= 20.04.77 KALININ PEAT IND C03 D13 (C04 D16) *SU -641-948
Powdered growth stimulant for animals, plants and microorganisms - 73308B/40

*KANE 09.02.78 KANEBO SOKUHIN KK D13 *J5 4107-566
Prodn. of granular material for making sparkling drinks - 72506B/40

KANF 23.06.71 KANEGAFUCHI CHEM KK D11 =J4 8010-264
Prepn. of oil and fat prod. for cakes - 72974B/40

*KANF 23.06.71 KANEGAFUCHI CHEM KK D11 *J7 9027-422
Prepn. of oil and fat prod. for cakes - 72974B/40

*KANF 17.10.75 KANEGAFUCHI CHEM KK B05 D16 E16 *SU -641-874
Microbiological prodn. of L-lysine - 73301B/40

*KANK- 13.02.78 KANKYO ENG KK D15 *J5 4108-459
Treatment of soln. leached for waste reclamation site - 72688B/40

KAOS 20.11.74 KAO SOAP KK D11 =J7 9027-886
Bread qualities improving agent - 53230X/28

KAOS 11.05.76 KAO SOAP KK A97 D25 E11 (E16) =J7 9027-005
Cleaning compsn. for removing viscous dirt or wax stains - 85014Y/48

KAOS 15.02.78 KAO SOAP KK D25 E16 (E14) =J5 4108-812
Dry-cleaning compsn. yielding soft antistatic clothes - 61760B/34

KAOS 17.02.78 KAO SOAP KK B03 C02 D25 E13 (D21) =J5 4109-914
Glycolipid methyl ester prodn. for sophorolipid - 53397B/35

*KAOS 20.03.78 KAO SOAP KK D25 E19 F06 *DT 2910-403
Bleaching compsn. for patterned or coloured clothes - 72277B/40

KAYA 23.07.75 KAYAKU ANTIBIOTIC RES B04 D16 =J7 9027-440
Antibiotic NaK 73A prodn. by cultivation of Streptomyces NaK W 75 - 19294Y/11

KECH= 26.12.77 KEMEROVSK CHEM IND A21 D15 (A97) =FR 2412-503
Treating waste water from phenol-formaldehyde resin mfr. - 49355B/27

*KEMA 16.11.77 KEMANOBEL AB D22 E19 H01 M14 *SW 7712-955
Preventing corrosion of metals in aq. systems - 73390B/40

KERJ 30.03.77 KERNFORSCHUNGS JULICH D15 J01 =DS 2713-991
Harmful oxidisable material oxidn. in aq. solns. - 72990A/41

KIMB 27.12.76 KIMBERLY CLARK CORP D22 =CA 1062-404
Die cut catamenial napkin with embossed facing layer - 31815A/17

*KISA- 15.11.77 KISA TRA AB D16 F09 *SW 7712-869
Recovery of biologically generated energy from pile of organic fibre - 73388B/40

KLOC 19.05.78 KLOCKNER WERKE AG D15 =BE -876-384
Sewage sludge pasteurisation - 50951B/28

*KOBM 10.02.78 KOBE STEEL KK D15 *J5 4107-153
Water treatment by BOD removal, nitrification and denitrification - 72405B/40

*KRAS= 06.07.76 KRASNOYARSKII PROMS D15 *SU -640-979
Domestic waste water purificn. - 73177B/40

KUBL- 09.11.77 FA KUBLER H D15 =GB 2016-942
Sewage sludge filter press system - 37340B/20

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-899
Antitumour polysaccharide prodn. - 67789A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-900
Antitumour polysaccharide - 67790A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-901
Antitumour polysaccharide prodn. - 67791A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-902
Antitumour polysaccharide prodn. - 67792A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-903
Fermentative prodn. of antitumour polysaccharide - 67793A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-904
Fermentative prodn. of antitumour polysaccharide - 67794A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-905
Fermentative prodn. of antitumour polysaccharide - 67795A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-906
Antitumour polysaccharide prodn. - 67796A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-907
Antitumour polysaccharide prodn. - 67797A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-908
Antitumour polysaccharide prodn. - 67798A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-909
Antitumour polysaccharide prodn. - 67799A/38

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-910
Antitumour polysaccharide prodn. from Inonotus fungi - 78909A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-911
Antitumour polysaccharide prodn. from Ramaria botrytis - 78910A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-912
Antitumour polysaccharide prodn. from Fistulina hepatica - 78911A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-913
Antitumour polysaccharide prodn. from Tremellodon gelatinosum - 78912A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-914
Antitumour polysaccharide prodn. from Protodaedalea - 78913A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-915
Antitumour polysaccharide prodn.from Clitocybe infundibuliformis - 78914A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-916
Antitumour polysaccharide prodn. from Depista nuda - 78915A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-917
Antitumour polysaccharide prodn. from Flammulina velutipes - 78916A/44

KURE 29.01.77 KUREHA CHEM IND KK B04 D16 =J7 9027-918
Antitumour polysaccharide prodn. from Mycena galericulata - 78917A/44

KURK 15.07.75 KURITA WATER IND KK D15 E36 =J7 9027-069
Removing dissolved or colloidal silica and silicate from water - 17440Y/10

*KURS 16.02.78 KURARAY KK B05 C03 D23 E15 (D21) *J5 4109-910
Unsatd. ester(s) prodn. - 72868B/40

*KURS 23.03.78 KURARAY KK A97 D22 J01 (A14) *DT 2908-805
Absorbent for aq. e.g. body fluids - 72048B/40

KURS 23.03.78 KURARAY KK A97 D22 J01 (A14) =GB 2017-107
Absorbent for aq. e.g. body fluids - 72048B/40

KURT/ 23.06.67 KURTZ L D B07 D22 =DS 1767-484
Impregnating articles with germicidal cpds - 32699R/19

KYOW 14.02.73 KYOWA HAKKO KOGYO B04 D16 (B02 B03) =DS 2406-811
RNA-Enzymatic hydrolysis - 61798V/35

KYOW 21.12.77 KYOWA HAKKO KOGYO B03 D22 E13 =FR 2412-558
2-Deoxy-fortimicin B and its precursors - 47152B/26

KYOW 21.12.77 KYOWA HAKKO KOGYO B03 D22 E13 =FR 2412-559
N-Substd.-fortimicin A derivs. - 49528B/27

KYOW 21.12.77 KYOWA HAKKO KOGYO B03 C02 D22 E13 =FR 2412-560
2'-N-Substd. fortimicin A derivs. - 51129B/28

YOW 21.12.77 KYOWA HAKKO KOGYO B03 C02 D22 E13 =FR 2412-561
4,2'-Di:acyl or alkyl fortimicin B derivs. - 51130B/28
YOW 13.02.78 KYOWA HAKKO KOGYO KK B03 D16 *J5 4109-948
Antibacterial fortimicin - 72884B/40
YPO= 08.04.77 KRASY POLY D14 J01 *SU -642-002
Continuous-action centrifuge for separating suspensions - 73329B/40

AFF/ 21.12.77 LAFFARGUE J D21 *FR 2412-303
Dental palate liner to facilitate fitting dentures - 72199B/40
EME= 25.07.77 LENGD MEAT IND TRUS D12 *SU -641-953
Removing epiphysis from bones - 73313B/40
ENL 12.05.76 LENINGRAD FORESTRY ACAD D23 *SU -574-463
Prodn. of phytosterol cpd. - 73058B/40
LESI 31.05.78 LESIEUR COTELLE SA D13 (D23) *BE -876-550
Treating fats, esp. palm oil - 71796B/40
LEWI/ 24.03.76 LEWIS J H D15 *CA 1062-437
Domestic water sterilisation using disposable assembly - 71844B/40
LFOR= 21.06.76 LATV FORESTRY RES C03 D22 E32 F09 (E23) *SU -642-166
Wood surface staining and preservation treatment - 73365B/40
LINM 04.08.76 LINDE AG D13 =DS 2635-117
Edible ice gasified homogenised then deep-frozen - 12473A/07
LIOY 31.05.77 LION FAT & OIL KK D25 E12 =US 4169-076
Mfr. of clear aq. solns. of anionic surfactant magnesium salts - 91657A/51
*LIOY 14.02.78 LION FAT & OIL KK D25 E17 *J5 4107-909
Cleaning compsn. for tableware and clothes - 72574B/40
*LISH/ 21.03.78 LISHMAN P D18 F07 *EP ---4-458
Fabric made of twisted fur strip - 72169B/40
*LIVA= 28.06.76 LIVANY BIOCHEM WORKS A97 C03 D13 *SU -603-162
Granulated animal feed concentrate prodn. - 73073B/40
*LKBP 31.05.78 LKB PRODUKTER AB B02 D16 J04 *BE -876-662
Adenine tri:phosphate determn. by bio-luminescence - 71832B/40

*MAIZ= 15.08.77 MAIZE RES INST C03 D16 *SU -641-927
Determining resistance of maize to stalk moth - 73304B/40
MASW 14.09.72 MASCH BUCKAU WOLF R D17 J01 =DS 2245-019
Turbine centrifuge for sugar prodn - 07351V/05
*MATY 24.00.74 MATSUYA KAGAKU KOGYO KK D13 *J7 9027-413
Liq. foodstuff solidification - 72972B/40
MEAC 22.04.74 MEAD CORP A89 D15 G06 =IT 1032-726
Reducing photographic wash-water for re-use - 76071W/46
*MECC- 31.05.78 MECCANICHE MODERN D24 *BE -876-704
Press for moulding cakes of soap and similar materials - 71842B/40
*MEDI= 28.06.76 MEDICAL ENG RES INS A97 C03 D13 *SU -603-162
Granulated animal feed concentrate prodn. - 73073B/40
MEIJ 29.10.75 MEIJI SEIKA KAISHA B04 C03 D16 =US 4169-140
Antibacterial and antifungal antibiotic SF-1771 - 33117Y/19
MEIJ 08.02.78 MEIJI SEIKA KAISHA B04 D16 =GB 2017-079
Antibiotic antitumour derivs. of substance SF-1739 - 68342B/38
MEIJ 14.02.78 MEIJI SEIKA KAISHA B04 D16 =J5 4109-901
Antibiotics SF-2050 and SF-2050b - 61757B/34
*MEIT 10.02.78 MEITO SANGYO CO KK B04 D16 *J5 4107-512
Low toxicity antitumour drug Helvellan - 72488B/40
MERE 16.02.78 MERCK PATENT GMBH D13 =SW 7901-351
Low decomposition rate granulated dietetic foodstuff - 63486B/35
*MERE 23.03.78 MERCK PAT GMBH D15 *DT 2812-813
Biological sewage treatment - 72006B/40
MERI 15.03.78 MERCK & CO INC A97 D13 (A11) =DT 2910-265
Stabilised fruit juice or drink - 63088B/34
MERI 15.03.78 MERCK & CO INC A97 D13 (A11) =GB 2017-147
Stabilised fruit juice or drink - 63088B/34
*MICR= 28.06.76 MICROBIOLOGY INST A97 C03 D13 *SU -603-162
Granulated animal feed concentrate prodn. - 73073B/40
*MICR= 13.05.77 MICROBIOL VIROLOGY C03 D16 *SU -640-988
Leguminous plants bacterial fertiliser - 73186B/40
MILE 15.09.75 MILES LABORATORIES INC D13 (D12) =J7 9027-889
Textured protein concentrate as meat substitute - 00037Y/01
MITC 22.02.78 MITSUI PETROCHEM IND KK A88 D15 J01 (A14 A17) =GB 2016-943
Sepg. alcoholic beverage from fermentation liquor - 63445B/35
*MITJ 15.02.78 MITSUI MIIKE MACH KK D15 *J5 4108-461
Denitrification of waste water with high nitrogen content - 72690B/40
MITK 23.12.77 MITSUI TOATSU CHEM INC B02 C02 D23 E13 #FR 2412-544
Piperonal prepn. - 11545A/06
MITN 19.05.75 MITSUBISHI GAS CHEM IND D16 F09 =J7 9027-898
Protein prodn. having low viscosity and good white colour - 02970Y/02
MITO 09.05.74 MITSUBISHI HEAVY IND KK B05 D16 E16 =IT 1032-830
L-cysteine and derivs prodn. from beta-substd. alanines - 79116W/48
*MITO 15.02.78 MITSUBISHI HEAVY IND KK D16 J01 (D15) *J5 4109-070
Deodorising waste gas from sewage works, town refuse composting, etc. - 72795B/40
MITR 26.09.74 MITSUBISHI RAYON KK A97 D15 J01 =CA 1062-689
Oily effluent-treating agent - 26798X/15
*MITR 13.02.78 MITSUBISHI RAYON KK D15 J01 *J5 4107-888
Inorganic anion exchanger prodn. for phosphoric ions etc 72563B/40
*MITR 14.02.78 MITSUBISHI RAYON KK D15 *J5 4108-463
Removal of harmful inorganic materials from water - 72692B/40
*MITU 10.02.78 MITSUBISHI CHEM IND KK B04 D16 *J5 4107-591
Prodn. of thioesterase used in acyl-coenzyme/A determn. - 72515B/40
*MITU 10.02.78 MITSUBISHI CHEM IND KK B04 D16 *J5 4107-596
Antibacterial bacteriocin prodn. from Bacillus pyocyaneus - 72518B/40
*MITU 14.02.78 MITSUBISHI CHEM IND KK A91 D15 (A11 A97) *J5 4107-992
Dehydration of cationic water-soluble polymer - 72641B/40
MMMM- 10.05.72 MMM MUNCHEN MEDIZIN D22 =DS 2222-992
Sterilizing chamber - 74316U/49
*MOGI= 05.07.77 MOGILEV TECHN INST D14 *SU -641-251
Sublimation dryer for food products - 73262B/40
MOLN 21.12.77 MOLNLYCKE AB D22 =FR 2412-305
Intravaginal period sanitary tampon with extraction cord - 47149B/26
MOMI 19.06.75 MORINAGA & CO LTD D13 =J7 9027-887
Snack having good flavour and texture produced from plant protein - 11751Y/07
MOOD/ 28.01.76 MOODY M B D13 =CA 1062-537
Self timing yoghurt maker with insulated enclosure - 36164Y/20
*MOON= 03.04.74 MOSC ONCOLOGY RES B04 D16 *SU -589-987
Desensitisation of organisms to tumour formation - 73065B/40
*MOOR- 11.12.75 MOORE-PERK CORP D22 E36 *US 4169-123
Cold gas sterilisation using hydrogen peroxide - 73536B/40
*MOOR- 26.09.77 MOORE-PERK CORP D22 E36 *US 4169-124
Low temp. sterilisation - 73537B/40
*MORG 13.02.78 MORINAGA MILK KK D13 *J5 4107-554
Storage stable cottage cheese-like food prodn. - 72504B/40
*MORI/ 13.02.78 MORI M D15 E31 G06 M11 *J5 4108-460
Chromium plating waste water treatment - 72689B/40
*MORP 09.02.78 MORISHITA PHARM KK A96 B04 D16 *J5 4107-589
Sepn. and purificn. of Staphylokinase - 72513B/40
*MOSU 15.03.76 MOSCOW LOMONOSOV UNIV D16 E13 *SU -639-936
Non-sporulating bacteria culturing - 73112B/40
MRSC 18.04.74 MARS LTD C03 D13 =OE 7703-064
Pectate thickener or gelifying agent for foods - 60378W/37
*MUHE/ 12.08.78 MUHER E C03 D13 *BE -876-332
Expanded animal feed croquettes - 71740B/40
MULL/ 24.12.77 MULLER E C03 D13 =FR 2412-267
Feed for cats and dogs made from pig skins - 67167A/38
MUND/ 18.02.78 MUNDY R E C03 D13 =DK 7900-721
Animal feeds contg. cement kiln flue dust - 47225B/26
*MUNZ- 16.03.78 MUNZING CHEMIE GMBH A14 D15 F09 (A35 A60) *DT 2811-422
Prepn. of water-in-oil dispersions of acrylamide polymers - 71912B/40

*NAKA/ 13.02.78 NAKANISHI M A91 D15 J04 L02 *J5 4107-923
Preventing elution of heavy metal ions from solidified mixt. - 72583B/40
NALC 10.02.75 NALCO CHEMICAL CO A97 D15 H01 J01 =CA 1062-724
Linear surfactant polymer prepd. from substd. polyamine - 45148Y/25
*NCAU= 19.05.77 NORTH CAUCASUS PROT B05 D17 E17 (D13) *SU -639-847
Mannitol and sorbitol prepn. for food and pharmaceuticals mfr. - 73094B/40
NEST 30.05.75 SOC PRODS NESTLE SA B02 D13 =DS 2532-308
Serotonin isolation from coffee wax - 92779X/50
NEST 09.03.76 SOC PROD NESTLE SA D13 =OE 7701-535
Aromatic spice extract used for food flavouring - 57506Y/33
NEST 23.12.77 SOC PROD NESTLE SA B07 D14 =FR 2412-316
Batch steriliser for particulate food or pharmaceutical prodn. - 22068B/12
*NEST 14.03.78 SOC PROD NESTLE SA D13 J04 *GB 2016-901
Powder agglomerating appts. - 72241B/40
NEST 16.03.78 SOC PROD NESTLE SA D16 (D13) =NL 7902-079
Stable plasmid- contg. Lactobacillus species culture prodn. - 70242B/39
NEUM/ 15.03.78 NEUMAIER R C03 D13 (D16) =GB 2016-892
Straw decomposition to protein-contg. feedstuffs - 70187B/39
*NIBD 15.02.78 NITTA BELT KK D22 *J5 4109-069
Adsorption of pollutants in chamber e.g. living room - 72794B/40
NIDE 08.08.75 NIPPON ELECTRIC KK D15 L02 =US 4169-053
Treatment of effluent contg. difficultly soluble ingredients - 13286Y/08
*NIHS 17.02.78 NIPPON SURFACTANT KK D23 E17 *J5 4109-907
Purification of alkylene oxide adduct of alcohol and/or diol - 72865B/40
NIKM 14.08.73 NIKKEN CHEM CO LTD D13 (D17) =J5 0046-619
Coating maltitol-contg particles with fine saccharide - 07864W/05
NIKM 14.08.73 NIKKEN CHEM CO LTD D13 (D17) =J7 9027-323
Coating maltitol-contg particles with fine saccharide - 07864W/05
NIKM 24.00.74 NIKKEN CHEM KK D13 =J5 0094-148
Liq. foodstuff solidification - 72972B/40
*NIKM 24.00.74 NIKKEN CHEM KK D13 *J7 9027-413
Liq. foodstuff solidification - 72972B/40
*NIPO- 15.02.78 NIPPON POLYCELLO KO A92 D14 *J5 4110-084
Gas-filled packaging of foodstuffs - 72909B/40
NISH- 12.05.76 NIPPON SHIRYO KOGYO D17 E13 =J7 9027-325
Sparingly hygroscopic granular powder prodn. - 00690A/01

*NISW 14.02.78 NISSHIN OIL MILLS KK D21 E17 *J5 4109-917
[illegible] of polyol and 12 hydroxy:stearic acid - 72871B/40
NITN 20.09.75 NIPPON TOKUSHU NOYAK B05 C01 D22 =OE 7706-738
(N)-Sulphamoyl phosphoric acid ester amide derivs. - 23602A/13
*NNSH 07.02.78 NIPPON SHINYAKU KK D13 *J5 4107-532
Food and beverage prepn. - 72501B/40
NORD- 17.03.78 NORDBRAU INGOLSTADT D16 =NL 7901-850
Beer of low alcohol content - 63165B/35
NORM- 29.09.76 NORM AMC AG D15 =OE 7704-847
Sludge aeration vessel subdivided by perforated plates - 25582A/14
*NOSU- 08.02.78 NOSU KAGAKU KOGYO KK D13 *J5 4107-560
Gelling agent prodn. for food - 72505B/40

OAKE- 01.03.79 OAKES E T LTD A31 D14 J02 =GB 2016-939
Mixer having concentric rings of axial mixing elements - 52580B/29
*ODEL- 04.08.78 ODELGA J ARZTLICH T D22 *OE 7805-693
Sterilising installation - B/40
*ODVE= 15.07.77 ODESS VENDING EQUIP D14 *SU -641-956
Electro-plasmolyser for fruit juice prodn. - 73316B/40
*OHNO 13.02.78 OHNO GIJUTSU KENKYU A97 C03 D13 *J5 4107-516
Feedstuff compsn. for trapping animals - 72490B/40
*OHNO/ 08.02.78 OHNO S A97 D13 *J5 4107-543
Roast chestnut treatment, for storage - 72502B/40
OLYU 05.04.77 OLYMPUS OPTICAL KK A88 D16 (A26) =DS 2849-564
Fluid feed device for automatic incubator - 65664A/37
OREA 03.03.70 L'OREAL SA D21 =IT 1032-502
Hair dyeing preparations - 58548S/36
OREA 14.05.71 L'OREAL SA B03 D21 E13 =DT 2265-537
Hair and skin treatment compsns - 77764T/49
OREA 16.05.74 L'OREAL SA A96 D21 (A26 D25) =DS 2521-960
Quaternised polymers for cosmetic compsns. - 80221W/49
OREA 09.09.76 L'OREAL SA D21 E24 =OE 7706-326
(N)-Mesylaminoalkyl amino alkyl phenols - 04114A/03
OSAY 01.07.77 ENSO GUTZEIT OY D15 E14 F09 =US 4169-049
Purifying waste waters, esp. sulphate pulp bleaching waters - 04344B/03
*OSKA 14.02.78 OSAKA TRANSFORMER KK D21 M22 *J5 4109-028
Dental workpiece precision casting system - 72783B/40
*OZAW/ 13.02.78 OZAWA M D21 E19 *J5 4107-528
Non-flammable liq. for removing manicure membrane - 72499B/40

PASE 23.12.77 PASSAVANTW MICHELBACHER D15 =FR 2412-334
Appts. for dewatering sludges - 49513B/27
PASE 18.01.78 PASSAVANTW MICHELBACHER D15 =J5 4109-242
Chemical-mechanical water treatment process - 54792B/30
PERF- 13.03.78 PERFETTI SPA D13 =GB 2016-895
Chewing gum contg. liq. flavoured filling - 49043B/27
PERF- 13.03.78 PERFETTI SPA D13 =NL 7901-962
Chewing gum contg. liq. flavoured filling - 49043B/27
*PERM- 24.03.78 PERMELEC ELECTRODE D15 E36 J03 M13 *DT 2909-593
Electrode for aq. metal halide soln. electrolysis - 72055B/40
PETE- 22.03.78 PETERS MACH CO D11 =GB 2016-891
Dispensing creme to surface of two streams of biscuits - 61423B/33
PFIZ 03.01.78 PFIZER INC B03 D22 E13 =J5 4109-991
Antibacterial 11-alkanoyl-4-isonitrile oleandomycin cpds. - 84004A/46
PHIP 02.12.77 PHILLIPS PETROLEUM CO C03 D16 (D13) #FR 2412-612
Single cell protein prodn. from mixed thermophilic culture - 44073A/25
PHIP 11.04.78 PHILLIPS PETROLEUM CO D16 (D13) =US 4169-010
Aerobic fermentation to produce single cell protein - 63251A/35
PIEC 13.03.78 PIERCE CHEMICAL CO B04 D16 #DT 2810-860
Peptide synthesis - 71082B/39
PIET/ 09.09.77 PIETSCH H A96 D22 (A11) #US 4169-121
Absorbent cellulose-sodium CMC fibres - 00084A/01
*PLAV= 28.04.77 PLAVA SMYCHKA MECH D17 J01 *SU -642-001
Separator for clarifying suspensions esp. molasses - 73328B/40
POLA 20.03.78 POLAK'S FRUTAL WORKS INC D23 E15 (D21 D25) =DT 2910-579
Nitrile cpds. with a 1-methyl-4 isopropyl:cyclohexane carbon skeleton - 69926B/39
POLQ 17.02.78 POLYSAR LTD A96 D22 =SW 7901-395
Foil-forming thermoplastic compsn. for orthopaedic use - 63399B/35
*POTA= 05.03.77 POTATO FEEDSTUFFS C03 D13 *SU -641-954
Processing potatoes for fodder mfr. - 73314B/40
PROC 01.08.74 PROCTER & GAMBLE CO D25 E19 =CA 1062-579
Detergent compsn with enhanced particulate soil removal - 86338W/52
PROC 15.11.74 PROCTER & GAMBLE CO A97 D25 E19 =CA 1062-580
Mild liq. detergent compsn. - 53938A/30
PROC 20.02.75 PROCTER & GAMBLE CO A97 D25 E37 =J7 9027-004
An additive for detergents and their compsns. - 68716X/37
*PROC 24.09.75 PROCTER & GAMBLE CO A96 D22 *US 4169-004
Sealing absorbent tampon overwrap end - 73475B/40
PROC 14.10.75 PROCTER & GAMBLE CO A97 D25 =GB 1553-610
Low-foam detergent compsns. - 27147Y/16
PROC 01.10.76 PROCTER & GAMBLE CO A97 D25 E19 (E37) =J5 4108-811
Granular alkaline detergent compsn. - 25226A/14
*PROC 02.11.77 PROCTER & GAMBLE CO D25 *J5 4108-813
Spray dried detergent composition - B/40
PROC 17.11.77 PROCTER & GAMBLE CO A97 D25 E16 (E14) =J5 4108-814
Granular detergent contg. alkoxylated cationic surfactant - 40967B/22
PROC 21.11.77 PROCTER & GAMBLE CO A87 D25 E19 F06 =J5 4106-696
Textile softening compsn. - 40886B/22
PROC 21.11.77 PROCTER & GAMBLE CO A87 D25 F06 =J5 4106-697
Textile conditioning compsn. - 40968B/22
*PROC 23.12.77 PROCTER & GAMBLE CO A97 D25 (A25) *US 4169-064
Laundry detergent compsns. - 73504B/40
*PROT- 19.06.69 SAS PROTINO GIOVANN D16 *IT 1032-801
Bitter aperitif - B/40
*PROT- 09.02.78 PROTIM INT LTD C03 D22 E24 F09 *GB 2017-160
Wood preservative compsn. contg. insoluble dye - 72287B/40

*QUAK 23.01.75 QUAKER OATS CO B03 D13 E13 *CA 1062-612
Prodn. of stable, free flowing vitamin/C prod. - 71852B/40

RHEO- 27.01.76 RHEON AUTO MACH D11 =GB 1553-635
Continuous dough roller for pastry and bread - 54417Y/31
RHON 16.02.78 RHONE-POULENC INDUSTRIES B04 C03 D16 (D13) =DK 7900-650
Enzymes immobilised on inorganic supports - 65025B/36
RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =DT 2909-861
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =NL 7901-991
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =NL 7901-993
Contactor for substances in different phases - 68134B/38
RIGA/ 16.02.78 RIGATTI-LUCHINI L D21 M26 =SW 7901-095
Electric vacuum furnace for melting gold or dental alloys etc. - 63393B/35
*RIKV 17.02.78 RIKEN VITAMIN OIL KK B03 C02 D11 E13 (D13) *J5 4109-962
Stable L-ascorbic acid (salt) prodn. - 72890B/40
*ROBE/ 04.11.77 ROBERTSON R D D25 *US 4169-065
Liquid compsn. for cleaning ears of pets esp. dogs - 73505B/40
ROGE/ 29.04.74 ROGERS O W D21 M11 =IT 1032-781
Artificial denture structures - 76099W/46
ROHG 24.09.76 ROHM GMBH D18 G03 (D16) =OE 7705-703
Hydrolytic decomposition of leather scraps - 25494A/14
ROHG 20.12.77 ROHM GMBH C03 D13 =FR 2412-265
Animal protein hydrolysates useful for animal feedstuffs - 53143B/29
*ROHW/ 20.03.78 ROHWER W D11 *DT 2812-183
Addn. of cooked whole rice flour to white bread - 71958B/40
*RUDL/ 01.08.77 RUD L F D15 J07 *SU -640-107
Unit for evaporation cooling of liquids - 73119B/40

SACH- 17.05.74 SACHS SYSTEMTECHNIK D15 =IT 1032-918
Anodic oxidation of effluents - 81722W/50
SAFA- 13.11.74 SAF SOC AGRIC FONCI C04 D16 =SU -641-871
Humus fertilizer from organic waste - 69000W/42
*SAGA 10.02.78 SAGAMI CHEM RES CENTRE A41 B03 D16 E13 *J5 4107-592
Optically active epoxide prepn. - 72516B/40
SANK- 13.03.78 SANKIO CHEMICAL KK B05 D23 E15 =DT 2909-663
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39
SANK- 13.03.78 SANKIO CHEMICAL KK B05 D23 E15 =NL 7901-945
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39
SANN 22.12.76 SANYO CHEM IND LTD A91 D15 F09 (A14 A97) =DS 2756-697
Quat. ammonium monomer-based water-in-oil polymer emulsions - 48129A/27
SANO 18.06.74 SANDOZ AG A60 D25 E13 F06 =SU -635-887
Diphenyl pyrazoline cpds. contg. sulphonic acid group - 00070X/01
*SANY 10.02.78 SANKYO KK C03 D22 (D15) *J5 4107-517
Preventing propagation of algae - 72491B/40
SATO/ 20.07.72 SATO K B04 D22 =J4 9030-584
Phosphoric acid enzyme-contg. material for healing wounds - 72970B/40
*SATO/ 20.07.72 SATO K B04 D22 *J7 9027-403
Phosphoric acid enzyme-contg. material for healing wounds - 72970B/40
*SAUR/ 17.03.78 SAURIN W D12 *EP ---4-502
Prodn. of sausages etc. with different internal portion - 72187B/40
SCGR 24.02.78 SOC CHIM GRANDE PAROISSE D15 E16 F09 H01 (D22) =BR 7901-002
Bactericidal treatment of polluted media - 68498B/38
SCHI- 27.08.76 MAJA-MASCH H SCHILL D12 =OE 7705-823
Machine for slicing meat, bacon etc. - 00082A/01
*SCHL/ 23.03.78 SCHLATTMANN W A96 D22 (A14) *DT 2812-696
Implant for dental prostheses - 71990B/40
SCHR/ 23.12.77 SCHREIBER A D15 =FR 2412-501
Compact plant for activated sludge treatment of waste water - 47189B/26
SCHU 30.11.76 SCHULKE & MAYR GMBH D22 E17 (D25) =OE 7707-115
Aq. per-glutaric acid soln. - 00170A/01
SCHU 08.12.76 SCHULKE & MAYR GMBH D22 E19 =OE 7707-941
Stable solid giving disinfectant soln. - 25289A/14
SCIE 16.02.78 SCIENCE UNION & CIE [illegible]
Compsn. for treating [illegible]

SCIE 16 02 78 SCIENCE UNION & CIE B04 D16 =NO 7900-512
Compsn. for treating virus diseases - 68496B/38

SCOL 21 06 77 SCHOLL CANADA INC A83 D22 E36 #CA 1062-458
Odour absorbing footwear insole - 91563Y/51

SEGK 10.02.78 SEIKAGAKU KK B04 D16 *J5 4107-584
Pure heparinase prodn. - 72508B/40

SEGK 10.02.78 SEIKAGAKU KK B04 D16 (D21) *J5 4107-585
Pure heparinase prodn. - 72509B/40

SEGK 10.02.78 SEIKAGAKU KK B04 D16 (D21) *J5 4107-586
Pure chondroitinase B prodn. - 72510B/40

SEGK 10.02.78 SEIKAGAKU KK B04 D16 (D13 D21) *J5 4107-587
Pure chondroitinase C prodn. - 72511B/40

SEYF/ 23.09.75 SEYFRIED C F D15 =GB 1553-620
Removing manganese from underground water by oxygen treatment - 07619Y/05

*SHES/ 17.12.75 SHESTERENKO A F D16 *SU -639-928
Microorganisms culture growth unit - 73111B/40

SHIE 13.03.78 SHINETSU CHEM IND KK B05 D23 E15 =DT 2909-663
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39

SHIE 13.03.78 SHINETSU CHEM IND KK B05 D23 E15 =NL 7901-945
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39

*SHIO 07.02.78 SHIONOGI KK A96 B04 D16 *J5 4107-588
Protease and elastase sepn. from Pseudomonas aeruginosa culture broth - 72512B/40

SHIS 01.12.73 SHISEIDO KK D21 E19 =CA 1062-617
Dyeing hair black or brown - 39660W/24

SHIS 30.01.76 SHISEIDO KK D23 E17 =J7 9027-407
Perfume fragrance modification - 56056Y/32

SHIS 06.04.76 SHISEIDO KK D21 E16 (E12) =J7 9027-408
Cosmetics comprising perfume and pigment - 83934Y/47

*SHUR/ 31.08.76 SHURIK L N D11 *SU -641-406
Liquid ingredients dispenser for yeast prepn. - 73293B/40

SILB/ 30.03.77 SILBERZAHN H D22 =OE 7801-838
Immersion wheel type steriliser for bottles - 72987A/41

SIMM- 11.05.78 SIMMERING-GRAZ-PAUK D16 =OE 7803-409
Preliminary extn. of hops for use in beer prodn. - 52591B/29

SIRE/ 21.02.78 SIREN M A35 D18 J01 (A11) =DK 7900-711
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35

SMIN 26.07.73 SMITH & NEPHEW LTD A91 B04 D13 J01 (A96 A97) =OE 7406-150
Absorbent particles coated with biocompatible polymer films - 13044W/08

*SNKM 10.02.78 SANKIN KOGYO KK A96 D21 (A14 A26) *J5 4107-187
Dental filling material contg. high molecular polymer powder - 72407B/40

*SNKM 15.03.78 SANKIN IND CO LTD A96 D21 *GB 2016-994
Denture base prodn. - 72255B/40

*SOLA- 03.11.77 SOLAR AQUASYSTEMS A93 D15 *US 4169-050
Aerobic treatment of waste water - 73499B/40

SOLB 23.12.77 SOLCO BASEL AG B04 D16 =FR 2412-314
Hetero-vaccine for treatment of trichomonas syndrome - 47144B/26

SPEC- 21.03.77 SPECIAL FOOD CORP D13 =OE 7801-906
Low calorie marzipan paste for confectionery, cakes and pastry - 53496A/30

STAD 02.09.75 STANDARD OIL CO (IND) D15 H05 #CA 1062-820
Continuous purificn. of petroleum refinery effluents - 84942W/52

*STAM 22.03.78 STAMICARBON BV A41 D15 E13 *EP ---4-397
Melamine removal from waste water - 72146B/40

STAM- 22.12.77 STAMAG STADLAUER MA D11 =FR 2412-262
Bakery prod. partic crisp biscuit with high bran content - 29793B/16

STER 18.01.71 STERLING DRUG INC D15 =J7 9027-669
Sewage oxidn system - 35218T/22

STER 22.09.75 STERLING DRUG INC B03 D16 =OE 7800-468
Aminocyclitol antibiotics of the streptamine type - 67317X/36

STRK 15.02.78 STORK PMT BV D12 =DK 7900-602
Device for cutting around anus and to breast of fowl - 64159B/35

STUD 20.10.76 STUDIENGES KOHLE MBH D13 =OE 7607-806
Decaffeination of coffee - 06375A/04

STUD 13.02.78 STUDIENGES KOHLE MBH D13 =SW 7901-211
Decaffeination of coffee - 50888B/28

SUDC 28.11.75 SUD-CHEMIE AG B03 D13 E13 =OE 7608-785
Xylose prodn. from xylan-contg. materials - 23637Y/14

SUME 10.08.76 SUMITOMO ELEC IND KK A88 D15 J01 =DS 2735-887
Hydrophilic porous fluorocarbon resin structure - 14398A/08

SUMO 00.00.78 SUMITOMO CHEMICAL KK D15 E35 J01 (E36) =J7 9027-314
Reducing nitrogen oxides in waste gases - 72717W/44

SUMO 13.02.78 SUMITOMO CHEMICAL KK D15 E36 J04 =J5 4108-692
Analysis of nitrogen derived from nitrites and nitrates - 56291B/31

SUMO 17.03.78 SUMITOMO CHEMICAL KK A88 D15 J01 (A14 D13) =NL 7902-024
Acrylonitrile polymer semi-permeable membrane treatment - 70294B/39

*SUPE- 07.06.78 SUPER IRIDE SPA D22 J04 *BE -876-410
Hygienic clothing, e.g. sanitary towel, absorbent wad or undergarment - 71761B/40

SWIF 22.01.76 SWIFT & CO D13 =CA 1062-536
Solid extruded vegetable e.g. tomato sauce compsn. - 55770Y/31

SYDK- 05.05.67 SYDKEMI AB D17 =J7 9027-411
Sugars recovered from dried sulphite lye - 86104R/46

SYNT 26.08.74 SYNTEX (USA) INC D13 =CA 1062-534
Dietetic foodstuff compsn. giving stable aq. emulsion - 81463W/50

*SZCE/ 23.05.77 SZCZEPANSKI L V A91 D15 M25 *US 4168-971
Recovering noble metals from geologic bodies of water - 73457B/40

TABU/ 24.10.77 TABUSHI I A97 D15 E14 J04 (A11 A13 E15) =US 4169-079
Removing water-soluble organic material from aq. soln. - 47719B/26

TAKA/ 30.06.75 TAKAHASHI T A96 D21 (A21) =DS 2629-694
Dental compsn. for covering pulp or filling root canals - 06080Y/04

*TAKE 24.03.78 TAKEDA YAKUHIN KOGY B02 C02 D16 *EP ---4-466
20-Demethyl-maytansinoid derivs. - 72173B/40

TATL 16.04.74 TATE & LYLE LTD D17 =IT 1032-674
Sugar crystallisation by high shear nucleation - 72498W/44

*TECD 14.03.78 TECHNICON INST COR A89 D16 J04 *DT 2909-904
Carbohydrate enzyme substrate immobilisation on carrier e.g. alumina - 72069B/40

TEEP 29.04.76 TEE PAK INC A97 D12 (A11 A25) =US 4169-163
Reducing friction coefficient of regenerated cellulose sausage skins - 66874Y/38

TOKA- 07.10.72 TOKAIKU SUISAN KENK D13 =J4 9055-868
Prepn. of modified protein useful as foodstuffs additive - 72973B/40

*TOKA- 07.10.72 TOKAIKU SUISAN KENK D13 *J7 9027-418
Prepn. of modified protein useful as foodstuffs additive - 72973B/40

TOKE 28.04.72 TOKYO SHIBAURA ELEC LTD D15 J01 =J4 9003-130
Water circulating electrical appts. - 72989B/40

*TOKE 28.04.72 TOKYO SHIBAURA ELEC LTD D15 J01 *J7 9027-668
Water circulating electrical appts. - 72989B/40

*TOKE 13.02.78 TOKYO SHIBAURA ELEC LTD D15 *J5 4108-457
Decolouration of water obtd. from night soil treatment - 72686B/40

*TOKE 13.02.78 TOKYO SHIBAURA ELEC LTD D15 *J5 4108-458
Decolouring and purifying activated sludge treated human waste - 72687B/40

TORA 30.04.74 TORAY IND INC D13 E17 (D16) =IT 1032-746
D-tartaric acid prodn - 76773W/46

TORA 24.09.76 TORAY IND INC A96 D22 J01 (A35 A88) =DS 2742-588
Sterilising dialyser contg. semipermeable membrane - 25641A/14

TORA 13.02.78 TORAY IND INC A88 D15 J01 (A25) =J5 4107-882
Reverse osmosis membrane contg. tri:isocyanurate polymer - 61748B/34

*TORA 14.02.78 TORAY IND INC D15 *J5 4108-462
Treatment of waste water having high COD - 72691B/40

TOXN 20.12.72 TOYO JOZO KK D11 =J4 9085-257
Antibacterial treatment of bread or wheat flour - 73008B/40

*TOXN 20.12.72 TOYO JOZO KK D11 *J7 9027-885
Antibacterial treatment of bread or wheat flour - 73008B/40

*TOYO/ 08.02.78 TOYODA O D15 E32 *J5 4107-152
Removing mercury and cadmium ions from waste liquor - 72404B/40

*TRAN- 26.11.76 TRANSTECHNIK AG D13 *OE 7608-788
Deep fried chipped potato prods. - B/40

*TRAN- 26.11.76 TRANSTECHNIK AG D13 *OE 7608-789
Deep fried chipped potato prods. - B/40

TRYC 21.09.66 TROY CHEMICAL CORP A92 C03 D22 E19 #J7 9027-404
Biocidal water-sol org mercury cpds for incorporation - 41801Q/00

*TURR/ 14.03.78 TURROQUES G A D12 *DT 2909-791
Sausage string knotting attachment - 72062B/40

TWEE- 21.12.77 TWEESEL HOLDINGS LT C03 D13 (C04) =J5 4107-551
Dry fertiliser, animal feed or human feed prodn. - 47150B/26

*UAGR= 20.06.77 UKR AGRIC RES INST C03 D16 *SU -640-989
Leguminous plant e.g. soya, bacterial fertiliser - 73187B/40

UGIN 25.04.74 UGINE KUHLMANN D18 E21 =IT 1032-743
Brown water soluble tris- and tetrakis-azo dyes - 75710W/46

UGIN 13.01.76 UGINE KUHLMANN D24 E12 (E17) =SU -638-251
Sepg. linear from branched chain soaps using a lithium cpd. - 48761Y/28

*ULEA= 29.12.76 UKR LEATHER FOOTWEAR D18 *SU -641-002
Leather chemical treating compsn. - 73200B/40

*ULEA= 10.03.77 UKR LEATHER FOOTWEA D18 *SU -641-003
Leather liquid treatment drum sampler - 73201B/40

*ULLM/ 20.03.78 ULLMANN W D11 *DT 2812-217
Push/in rack for baking tins - 71961B/40

*ULYA= 25.04.77 ULYANOVSK POLY D15 *SU -640-977
Vacuum deaerator for use in power plants and boiler units - 73175B/40

UNIC 06.01.69 UNION CARBIDE CORP A11 D14 (A92) =DS 2000-462
Plasticization and anti blocking agent - 49027R/27

UNIC 23.12.77 UNION CARBIDE CORP C04 D15 M28 =FR 2412-504
Removing heavy metals from waste activated sludge - 47205B/26

UNIC 13.04.78 UNION CARBIDE CORP B02 D16 E17 #GB 1553-662
Glutaraldehyde sterilisation of fermentation media - 76297A/43

UNII 23.06.75 UNIV ILLINOIS FOUND D13 =OE 7604-599
Soya based drink from crude soya beans - 63407X/34

UNIL 05.10.65 UNILEVER NV D23 =DS 1617-023
Hard and liq. glycerol triesters of 10-24 C fatty acids septd. - 20313W/12

UNIL 18.07.73 UNILEVER NV A96 D22 E17 =IT 1032-520
Deodorant compn. for cosmetics without astringents - 09095W/06

UNIL 13.03.74 UNILEVER NV A96 D21 =IT 1032-583
Anti-perspirant for human skin - 64252W/39

UNIL 11.04.74 UNILEVER NV D13 =IT 1032-647
Coated foodstuffs obtd. by steaming battered portions - 70713W/43

UNIL 01.05.74 UNILEVER NV D13 E17 (E12) =IT 1032-766
Emulsifying mixt. for foodstuffs - 75729W/46

UNIL 09.05.74 UNILEVER NV D25 =IT 1032-832
Spray-dried non-ionic cleaning powder - 80517W/49

UNIL 22.05.74 UNILEVER NV D13 (D12) =IT 1032-945
Edible protein materials prodn. by dropwise coagulation - 81456W/50

UNIL 10.03.75 UNILEVER NV C03 D23 E17 (D13) =OE 7601-681
De-waxing triglyceride oils - 74334X/40

UNIL [illegible]2.06.75 UNILEVER LTD B04 C03 D16 =GB 1553-664
Vaccines contg. antigens adsorbed on erythrocytes - 96248X/52

UNIL 15.08.75 UNILEVER NV A96 D21 E11 (A06) =OE 7605-986
Liquid anti-perspirant compsn. contg. specified polysiloxanes - [illegible]/07

UNIL 13.11.75 UNILEVER NV D23 (D13) =OE 7608-437
Refining glyceride oils, esp. for use in salad oils or margarine - 36723Y/21

UNIL 22.12.77 UNILEVER NV A97 D25 E19 =FR 2412-609
Stable liq. detergents with low hydrotrope content - 49430B/27

UNIL 22.12.77 UNILEVER NV A97 D25 E19 (A25) =FR 2412-610
Aq. detergent compsn. esp. for dish washing - 47208B/26

UNIL 22.12.77 UNILEVER NV D25 E34 =FR 2412-611
Granular bleach activators - 49431B/27

UNIL 22.12.77 UNILEVER NV D25 E34 =J5 4109-085
Granular bleach activators - 49431B/27

UNIL 12.01.78 UNILEVER NV D21 (D25) =J5 4107-910
Washing compsn. contg. detergent and deodorant - 54833B/30

UNIL 15.02.78 UNILEVER NV A32 D22 =DK 7900-637
Rendering plastics foil water permeable - 63269B/35

UNIL 15.02.78 UNILEVER NV A96 D22 =DK 7900-638
Absorbent bandage with perforated facing sheet - 61693B/34

UNIL 15.02.78 UNILEVER NV A32 D22 =SW 7901-314
Rendering plastics foil water permeable - 63269B/35

UNIL 15.02.78 UNILEVER NV A96 D22 =SW 7901-315
Absorbent bandage with perforated facing sheet - 61693B/34

UNIL 13.03.78 UNILEVER NV D13 =DT 2908-863
Spray stencilling design on food prod. esp. ice cream - 68123B/38

UNIL 13.03.78 UNILEVER NV D13 =NL 7901-966
Spray stencilling design on food prod. esp. ice cream - 68123B/38

UNIL 14.03.78 UNILEVER NV D13 =DT 2910-008
Jojoba oil coating agent for foods - 68612B/38

UNIL 14.03.78 UNILEVER NV D13 =NL 7901-967
Jojoba oil coating agent for foods - 68612B/38

*UNIL 23.03.78 UNILEVER LIMITED D25 *EP ---4-463
Cleaning powder pack - 72171B/40

UNPR- 15.05.73 UNION PROCESS INT D13 =CA 1062-681
Liquor grinding process for mfr. of chocolate etc. - 17709A/10

UPJO 06.09.77 UPJOHN CO B03 D22 E13 F09 =US 4169-197
Antibacterial deoxy-neamine derivs. and precursors - 22298B/12

USMC 19.10.77 USM CORP D17 =US 4168-660
Sugar cane crushing mill - 33608B/18

*UYCO- 14.03.78 UNIV CONNECTICUT D21 M26 *DT 2910-021
Orthodontic device made of beta-titanium alloy wire - 72072B/40

*VEBB 20.03.78 VEB BERGMAN BORSIG D15 M11 *DT 2905-117
Electrochemical machining of metals - 72042B/40

VEOS 20.12.77 VER OSTERR EISEN & STAHL D15 =FR 2412-402
Pressurised screen belt - 47467B/26

VERE 06.06.75 VER PAPIERW SCHICKEDANZ A96 D22 F07 =OE 7603-617
Absorbent material contg. cellulose fibres and thermoplastic binder - 94526X/51

*VERI/ 20.04.78 VERI V J D13 *US 4169-165
Diced hot banana peppers prodn. - 73555B/40

*WAGB 22.03.78 WAAGNER BIRO AG D16 *OE 7802-029
Sepg. gas phase from circulating liquid - B/40

*WAGB 19.05.78 WAAGNER BIRO AG D16 *BE -876-373
Preserving yeast culture during continuous alcoholic fermentation - 71748B/40

WAKD 10.03.72 WAKODO KK D13 =J4 8091-254
Mfg. seasoning for foodstuffs - 72975B/40

*WAKD 10.03.72 WAKODO KK D13 *J7 9027-423
Mfg. seasoning for foodstuffs - 72975B/40

*WATA 09.02.78 WATANABE YAKUHIN KO A14 B04 D21 (A96 B07 D22)
*J5 4106-598
Synthetic high polymer gel - 72351B/40

WATS- 22.02.78 WATSON J DEV LTD D15 =GB 2016-938
Self powered desalination appts. - 65013B/36

WEIS- 06.02.74 WEISS & CO KEMISKA D22 =CA 1062-447
Destruction of odours with acid solns of oxidants - 44439W/27

*WELA 13.03.78 WELLA AG D21 E37 *DT 2810-812
Solid permanent waving or hair-straightening compsn. - 71875B/40

WELT/ 24.03.78 WELTMAN J K B04 D16 =GB 2017-105
Enzyme conjugates for immunoassay - 69942B/39

WERN 22.03.75 WERNER & PFLEIDERER D11 =DS 2512-790
Braided bread dough structure prodn - 76009X/41

WETZ- 17.01.75 LEITZ E WETZLAR A96 D21 L02 =OE 7507-882
Composite prosthetic matl. - 59928X/32

*WIEN/ 14.03.78 WIENEKE F C03 D13 *DT 2810-944
Straw dehydration machine - 71890B/40

*WILL/ 17.03.78 WILLINGTON F L A96 D22 *GB 2016-998
Absorbent filled incontinence pad - 72259B/40

WISC 15.10.74 WISCONSIN ALU RES FOUND D16 E24 =CA 1062-640
Isolation of pigment from beetroots - 24480X/14

*WOOD= 12.08.77 WOOD MECH PROCESS C03 D22 E12 F09 (E34 E35)
*SU -642-168
Antifungal timber treatment aq. soln. - 73367B/40

WYSS 21.12.77 ESCHER WYSS GMBH C03 D13 =FR 2412-270
Treating whole grain cereals to obtain better animal feed - 31622B/17

*YUZH= 27.12.76 YUZHGIPROBIOSINTEZ D16 *SU -639-926
Microbial culture growth unit - 73109B/40

ZAID 22.07.77 ZH BISEIBUTSU KAGAKU KEN B04 D16 =GB 1553-656
Amastatine A1, A2, A3, B1, B2 aminopeptidase A inhibitors - 55160A/31

*ZEMS/ 11.04.77 ZEMSKOV I A D14 *SU -641-955
Feedstuff grass dewatering press - 73315B/40

ZUBL- 27.07.77 ZUBLIN E AG D16 J04 #US 4168-915
Rotating drum for refuse treatment - 10575A/06

01-Q ACDE
1173-661 Q00
9027-404 B40+

522-R D
2002-621 R13+
1967-384 Y17
S 1918-130 B40

599-R BD
1563-560 R19
B 1229-425 S15
B 1241-288 S30
A 927-745 U26
T 1792-806 B25
S 1767-484 B40

027-R AD
E -744-086 R27+
L 7000-106 R28
R 2027-823 S03
T 2000-462 S05
2024-467 T28
B 1292-581 T41
A 935-616 U46
S 2000-462 B40+

0246-R BD
E 744-357 R28
NL 6900-551 R29
DT 2001-127 R35
ZA 6908-870 R36
FR 2028-224 S02
CA 897-066 T16
J7 2021-118 T24
NL 136-834 T47
GB 1300-399 T51
CH 546-575 V17
DS 2001-127 B40

6104-R D
US 3542-590 R46
CA -867-364 S21
CH 514-028 S51
DT 1692-884 U34
J7 9027-411 B40

20191-S AD
BE 756-115 S11
NL 7012-264 S12
DT 1946-723 S13
ZA 7006-304 S31
FR 2061-403 S38
GB 1261-688 T04
US 3724-999 U16
DS 1946-723 A40
J7 9027-401 B40

58548-S D
BE -763-651 S36+
DS 2109-850 V41+
CH -557-412 W05+
CH -557-863 W09+
CA -972-289 W34+
OE 7101-758 W35+
US 3960-476 X24+
NL 7102-736 S38
DT 2109-850 S39
J4 6003-487 S45
FR 2099-049 T24
GB 1310-864 U12
OE 7405-437 A22+
IT 1032-502 B40+

35218-T D
US 3661-778 T22
J4 7015-371 T36
ZA 7200-121 T41
GB 1322-881 U28
CA 958-507 V51
J7 9027-669 B40

77764-T BDE
NL 7206-351 T49
BE 783-446 T52
DT 2223-306 U01
FR 2139-876 U13
CH 551-198 V36
GB 1367-841 V39
US 3950-532 X17
OE 7204-129 Y18
CA 1027-044 A11
J5 4080-465 A17
DT 2265-537 B40

35086-U DE
DT 2160-318 U25
DS 2160-318 B40

35355-U ADEF
NL 7216-062 U25
BE -791-994 U25
DT 2159-380 U27
FR 2162-122 U39
J4 8064-121 U46
GB 1371-975 V44
DS 2159-380 W32
J5 0142-875 X02
CH -573-967 X29
J7 9027-372 B40

74316-U D
DT 2222-992 U49
DS 2222-992 B40

07351-V DJ
BE -804-871 V05
NL 7311-857 V13
DT 2245-019 V13
FR 2200-061 V25
US 3860-165 W04
GB 1446-923 X34
NL -154-435 Y42
CS 7306-089 A41
DS 2245-019 B40

11432-V DJ
BE 805-688 V07
NL 7313-656 V18
DT 2351-428 V18
ZA 7307-251 V40
GB 1441-020 X27
IL --43-214 A14
CA 1033-153 A27
IT 1032-512 B40

40237-V DE
DT 2353-147 V22
NL 7314-607 V22
FR 2206-304 V37
J4 9080-047 V40
GB 1392-020 W17
US 3894-088 W29
CH -572-457 X15
CH -576-787 X29
J5 4052-737 B23
J7 9027-409 B40

61798-V BD
DT 2406-811 V35+
FR 2217-332 V49+
J4 9102-890 W09
J4 9118-893 W19
US 3920-519 W49+
GB 1451-835 X41+
CA 1023-290 A03+
J7 8027-795 A36
J7 8028-995 A37
J5 3096-391 A39+
DS 2406-811 B40+

82644-V ADF
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DT 2422-975 V51
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SW 7406-348 W01
DK 7402-639 W03
SF 7401-457 W06
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US 3867-935 W10
DL -113-695 W32
CA -997-918 X43
GB 1460-823 Y01
CH -593-694 A02
ZA 7403-045 X06
OE 7403-969 B40

02382-W D
DT 2428-032 W02
FR 2233-396 W13
J5 0036-507 W22
DS 2428-032 W40
US 3956-162 X21
GB 1459-342 X52
CA 1023-636 A04
J7 9027-002 B40

07864-W D
DT 2429-872 W05+
US 3918-986 W48
J5 0046-619 B40
J7 9027-323 B40

09095-W ADE
BE -817-752 W06
NL 7409-704 W06+
DT 2433-703 W07+
SW 7409-353 W11+
NO 7402-608 W11+
FR 2237-617 W18+
ZA 7404-536 X17+
GB 1472-536 Y18+
OE 7405-882 A06+
CH -603-160 A37+
CA 1037-868 A38+
IT 1032-520 B40

13044-W ABDJ
DT 2435-702 W08+
SW 7409-644 W12+
FR 2238-513 W19+
DK 7404-007 W19+
CH -586-061 Y18+
IL --45-372 Y39+
US 4076-892 A11+
IT 1020-667 A15+
CA 1060-728 B36+
OE 7406-150 B40+

20313-W D
NL -144-983 W12
DS 1617-023 B40

39660-W DE
DT 2455-376 W24
FR 2252-841 W38
US 3993-436 X49
GB 1460-952 Y01
J7 6047-778 Y02
J5 0088-240 Y08
DS 2455-376 Y19
CA 1062-617 B40

44375-W DE
BE -823-501 W27
NL 7416-257 W27
SW 7415-843 W32
NO 7404-488 W33
J5 0094-164 W38
FR 2254-281 W40
DK 7406-571 W40
SF 7403-603 W40
DT 2459-656 W45
ZA 7407-906 X13
CS 7408-673 Y15
GB 1496-487 A01
OE 7410-121 A44
CH -612-834 B38
IT 1032-556 B40

44439-W D
BE -825-452 W27
DT 2505-020 W33
NL 7501-390 W34
SW 7501-206 W39
NO 7500-370 W40
SF 7500-313 W44
J5 0115-172 W45
DK 7500-393 W46
FR 2259-621 W47
OE 7500-912 X28
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CH -609-566 B16
CA 1062-447 B40

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DK 7405-121 W30
ZA 7405-778 W51
US 3993-497 X49
GB 1478-387 Y26
CA 1062-439 B40

54048-W BD
BE -826-982 W33
DT 2414-156 W40
NL 7503-426 W41
SW 7503-260 W46
FR 2264-557 X02
US 4022-883 Y20
GB 1488-617 Y41
CA 1062-611 B40

55957-W BCDE
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NL 7500-788 W34+
J5 0107-149 W42+
FR 2259-831 W47+
GB 1460-872 Y01+
CH -585-024 Y16
CH -585-742 Y18
CH -585-744 Y18
CH -585-743 Y18
CH -586-217 Y18
CH -586-020 Y18
DT 2559-251 Y48+
US 4120-830 A43+
DS 2504-618 B40+

55989-W DE
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US 3915-175 W45
CH -585-030 Y16
GB 1486-136 Y38
DS 2505-157 B40

60378-W CD
BE -828-047 W37+
NL 7504-674 W45+
DT 2517-274 W46+
SW 7504-448 W50+
NO 7501-344 W51+
J5 0142-744 X02+
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NL 7511-824 X17
DT 2544-902 X19
SW 7511-205 X21
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DK 7504-530 X28
FR 2287-180 X30
US 3973-051 X33
US 3982-003 X40+
ZA 7506-227 X44
J5 1125-767 X51
IL --47-115 Y51+
GB 1508-993 A17+
OE 7503-025 A35
GB 1525-123 A38+
IL --48-206 A45
OE 7507-709 A48
SW 7811-534 B10+
US 4143-172 B11
OE 7703-064 B40+

60417-W BDE
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NL 7504-717 W45
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FR 2268-864 X07
DK 7501-737 X07
US 3986-933 X44
GB 1500-340 A06
IT 1032-739 B40

60429-W D
BE -828-273 W37
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NL 7505-105 W46
FR 2268-756 X07
BR 7502-558 X14
SW 7504-792 X15
CS 7403-061 X17
US 4008-153 Y08
OE 7503-248 Y13
GB 1498-853 A04
CH -604-817 A41
DS 2517-617 B02
CA 1062-821 B40

64017-W DHJ
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NL 7502-731 W39+
NO 7500-728 W45+
DT 2509-649 W45+
SW 7502-651 W49+
FR 2263-803 X01+
DK 7500-986 X04+
J5 1004-861 X09+
ZA 7501-293 X13
GB 1488-682 Y41+
CH -592-463 Y48+
DS 2509-649 B38+
CA 1062-627 B40+

64252-W AD
DT 2510-364 W39
BE -826-560 W39
NL 7502-843 W40
SW 7502-785 W45
NO 7500-848 W46
J5 0126-820 W49
DK 7501-014 W49
SF 7500-704 W51
FR 2263-742 X01
ZA 7501-473 X48
GB 1501-862 A08
OE 7501-896 A31
IT 1032-583 B40

65936-W AD
DT 2511-854 W40
US 3910-848 W42
J5 0127-905 W49
FR 2264-868 X02
GB 1467-583 Y11
DS 2511-854 Y50
CA 1037-338 A37
J7 9027-003 B40

68009-W DH
J5 0070-581 W41
J7 9027-896 B40

69000-W CD
BE -829-116 W42+
NL 7507-900 X04+
DT 2506-795 X04+
DK 7502-992 X15+
FR 2276-869 X17
US 4028-030 Y24+
DS 2506-795 Y26+
CH -591-280 Y41
GB 1495-772 Y51+
US 4082-532 A21+
CH -604-878 A41
SU -641-871 B40

70713-W D
BE -827-705 W43
NL 7504-204 W44
DT 2515-111 W45
NO 7501-249 W50
J5 0142-749 X02
FR 2267-053 X05
GB 1508-781 A17
CA 1054-433 B23
IT 1032-647 B40

72315-W DFJ
US 3912-622 W43
SW 7506-163 X06
J5 1004-304 X09
SF 7501-493 X10
BR 7503-395 X21
GB 1477-251 Y25
CA 1014-109 Y31
IT 1032-997 B40

72498-W D
BE -827-985 W44
NL 7504-545 W44
DT 2516-253 W46
FR 2268-077 X06
DK 7501-619 X06
J5 1009-736 X11
ZA 7502-257 X21
US 3972-725 X33
GB 1460-614 Y01
DS 2516-253 A18
CA 1040-194 A43
IT 1032-674 B40

72717-W DEJ
DT 2459-615 W44
NL 7500-875 W44
US 3970-739 X31
GB 1480-657 Y29
J5 0133-995 Y51
J5 4015-494 B11+
J7 9027-314 B40+

72788-W D
DT 2515-637 W44
BE -827-819 W44
NL 7504-374 W44
SW 7504-167 W49
J5 0139-104 X01
FR 2267-367 X05
BR 7502-018 X09
GB 1500-759 A06
IT 1032-651 B40
US 4169-101 B40

74394-W ADF
DT 2515-970 W45
BE -828-135 W45
NL 7504-645 W45
DK 7501-681 X05
FR 2267-794 X06
US 3937-223 X08
BR 7502-011 X13
SW 7504-548 X15
ZA 7501-805 X17
DL -118-527 X22
GB 1453-265 X43
OE 7502-940 Y44
HU T014-039 Y45
IL --46-934 A14
US 4128-612 A50+
CA 1062-573 B40

74395-W DEG
DT 2516-116 W45
BE -828-067 W45
NL 7503-562 W45
FR 2268-072 X06
DK 7405-331 X06
OE 7403-311 X10
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GB 2017-079 B40+

68454-B D
EP ---4-094 B38+
DT 2810-842 B39
DT 2810-911 B40

68493-B AD
EP ---4-204 B38+
GB 2016-928 B40+

68496-B BD
EP ---4-214 B38
BR 7900-951 B39
DK 7900-643 B40
NO 7900-512 B40

68498-B DEFH
EP ---4-217 B38
BR 7901-002 B40

68589-B AD
GB 2015-921 B38
BE -874-772 B38
DT 2909-096 B39
NL 7901-704 B40

68596-B ACDE
GB 2015-961 B38
DT 2909-547 B40

68612-B D
GB 2016-042 B38+
BE -874-779 B38
NL 7901-967 B40
DT 2910-008 B40

69916-B ABDJ
BE -874-944 B39
DT 2812-154 B40

69926-B DE
BE -874-963 B39
GB 2016-462 B39+
DT 2910-579 B40

69942-B BD
BE -875-064 B39
GB 2017-105 B40

70181-B DJ
DT 2811-135 B39
BE -874-869 B39
GB 2016-688 B39
NL 7902-041 B40

70187-B CD
DT 2811-208 B39
GB 2016-892 B40

70242-B D
DT 2907-721 B39
NL 7902-079 B40

70271-B AD
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GB 2016-897 B40

70279-B AD
DT 2909-846 B39
GB 2017-073 B40

70294-B ADJ
DT 2910-413 B39+
GB 2016-301 B39+
NL 7902-024 B40+

70355-B D
GB 2016-258 B39
NL 7802-947 B40
DT 2910-394 B40

70384-B BDE
GB 2016-449 B39
NL 7901-945 B40
DT 2909-663 B40

71082-B BD
NL 7802-578 B39
DT 2810-860 B40+

71712-B D
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71727-B AD
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71731-B D
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71732-B D
BE -876-292 B40

71735-B ADE
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71736-B DE
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71739-B D
BE -876-331 B40

71740-B CD
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71746-B BD
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71748-B D
BE -876-373 B40

71759-B D
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71761-B DJ
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71762-B D
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71767-B ADE
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71785-B DE
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71792-B ADEF
BE -876-536 B40

71796-B D
BE -876-550 B40+

71802-B BD
BE -876-567 B40

71814-B DE
BE -876-612 B40

71817-B D
BE -876-622 B40
OE 7803-909 B35

71825-B ABD
BE -876-639 B40

71830-B DJ
BE -876-657 B40

71832-B BDJ
BE -876-662 B40

71842-B D
BE -876-704 B40+

71844-B D
CA 1062-437 B40

71848-B AD
CA 1062-538 B40

71849-B DK
CA 1062-590 B40

71852-B BDE
CA 1062-612 B40

71868-B ADM
DS 2851-729 B40

71875-B DE
DT 2810-812 B40

71884-B D
DT 2810-892 B40

71890-B CD
DT 2810-944 B40

71893-B DJ
DT 2811-176 B40

71896-B BD
DT 2811-222 B40

71906-B D
DT 2811-353 B40

71912-B ADF
DT 2811-422 B40

71922-B D
DT 2811-719 B40
EP ---4-304 B40

71958-B D
DT 2812-183 B40

71961-B D
DT 2812-217 B40

71977-B AD
DT 2812-474 B40

71980-B D
DT 2812-536 B40

71990-B AD
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72003-B D
DT 2812-794 B40

72006-B D
DT 2812-813 B40

72042-B DM
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72048-B ADJ
DT 2908-805 B40
GB 2017-107 B40

72055-B DEJM
DT 2909-593 B40

72061-B AD
DT 2909-666 B40

72062-B D
DT 2909-791 B40

72069-B ADJ
DT 2909-904 B40

72072-B DM
DT 2910-021 B40

72077-B DEF
DT 2910-403 B40+

72078-B ABDJ
DT 2910-414 B40
GB 2017-125 B40

72092-B DFJ
DT 2911-113 B40+
GB 2017-281 B40+

72125-B BDE
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72133-B DE
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72134-B DE
EP ---4-368 B40

72146-B ADE
EP ---4-397 B40

72160-B ADH
EP ---4-426 B40

72162-B DM
EP ---4-431 B40

72169-B DF
EP ---4-458 B40

72171-B D
EP ---4-463 B40

72173-B BCD
EP ---4-466 B40+

72187-B D
EP ---4-502 B40+

72191-B ABD
EP ---4-514 B40

72194-B D
FR 2412-263 B40+

72195-B ACDH
FR 2412-268 B40

72196-B D
FR 2412-269 B40

72199-B D
FR 2412-303 B40

72230-B D
FR 2413-018 B40

72239-B D
GB 2016-894 B40

72240-B D
GB 2016-896 B40+

72241-B DJ
GB 2016-901 B40

72242-B D
GB 2016-909 B40

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72255-B AD
GB 2016-994 B40

72257-B D
GB 2016-996 B40

72259-B AD
GB 2016-998 B40+

72267-B AD
GB 2017-075 B40

72283-B D
GB 2017-146 B40

72287-B CDEF
GB 2017-160 B40+

72351-B ABD
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72404-B DE
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72405-B D
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72487-B BD
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72573-B D
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72574-B DE
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72692-B D
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72709-B D
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72783-B DM
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72794-B D
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72795-B DJ
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72824-B DK
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72825-B DK
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72826-B ADE
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72827-B D
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72828-B D
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72865-B DE
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72868-B BCDE
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72871-B DE
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72874-B DE
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72878-B BDEM
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72884-B BD
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72890-B BCDE
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72909-B AD
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72970-B BD
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72971-B D
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72972-B D
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72973-B D
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72974-B D
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72975-B D
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72989-B DJ
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73004-B D
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J5 0005-275 B40

73008-B D
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J4 9085-257 B40

73016-B DE
NL 7902-042 B40

73058-B D
SU -574-463 B40

73063-B BC
SU [illegible] B40

3-B ACD
-603-162 B40

4-B BDE
-639-847 B40

09-B D
-639-926 B40

10-B D
-639-927 B40

11-B D
-639-928 B40

12-B DE
-639-936 B40

13-B D
-639-937 B40

19-B DJ
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75-B D
-640-977 B40

177-B D
-640-979 B40

186-B CD
-640-988 B40

187-B CD
-640-989 B40

200-B D
-641-002 B40

201-B D
-641-003 B40

262-B D
-641-251 B40

293-B D
-641-406 B40

301-B BDE
U -641-874 B40+

304-B CD
U -641-927 B40

308-B CD
U -641-948 B40

3312-B D
U -641-952 B40

3313-B D
U -641-953 B40

3314-B CD
U -641-954 B40

3315-B D
U -641-955 B40

3316-B D
U -641-956 B40

3328-B DJ
U -642-001 B40

3329-B DJ
U -642-002 B40

3365-B CDEF
U -642-166 B40

3367-B CDEF
U -642-168 B40

3381-B CD
U -642-279 B40

3388-B DF
W 7712-869 B40
W 7712-869 B27

3390-B DEHM
SW 7712-955 B40
SW 7712-955 B27

3411-B D
US 4168-642 B40

73412-B DEG
US 4168-662 B40

73414-B DJ
US 4168-670 B40+

73457-B ADM
US 4168-971 B40

73475-B AD
US 4169-004 B40+

73481-B D
US 4169-013 B40+

73482-B AD
US 4169-014 B40+

73498-B D
US 4169-048 B40

73499-B AD
US 4169-050 B40

73504-B AD
US 4169-064 B40

73505-B D
US 4169-065 B40

73507-B DE
US 4169-072 B40+

73508-B DE
US 4169-073 B40+

73527-B DE
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73536-B DE
US 4169-123 B40+

73537-B DE
US 4169-124 B40

73551-B D
US 4169-160 B40+

73552-B D
US 4169-161 B40+

73553-B CD
US 4169-162 B40

73554-B D
US 4169-164 B40

73555-B D
US 4169-165 B40

73556-B D
US 4169-166 B40

·875
161 71712B D16

·876
276 71727B A96D21
291 71731B D18P1
292 71732B D22P3
314 71735B A96D21E19
315 71736B D21E37
331 71739B D15
332 71740B C03D13
354 71746B B04D16
373 71748B D16
384 50951B D15
406 71759B D22P1
• 410 71761B D22J04P2R1
• 411 71762B D14
• 425 71767B A96D21E19
• 505 71785B D21E36
• 536 71792B A84D25E16F06
= 537 68037B D25E19F06
• 550 71796B D13
• 567 71802B B04D16R1
• 612 71814B D21E33
• 622 71817B D13
• 639 71825B A96B04D21
• 657 71830B D15J01
• 662 71832B B02D16J04R1
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• 704 71842B D24

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• 233 B D17P1

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CA 1062
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= 421 80315W D24
• 437 71844B D15P3
= 439 50210W D21E36
= 447 44439W D22P3
458 91563Y A83D22E36P2 + P7
= 534 81463W D13
= 535 94196X D16
= 536 55770Y D13
= 537 36164Y D13
• 538 71848B A97D13
= 539 23641Y D12 + P4
= 573 74394W A96D22F04P3
577 20359B D18F09 + P1
= 579 86338W D25E19
= 580 53938A A97D25E19
= 581 06530Y A11D16
• 590 71849B D15K05
= 611 54048W B04D16
• 612 71852B B03D13E13
= 617 39660W D21E19
= 627 64017W D15H03J01 + Q4
= 640 24480X D16E24
= 648 71329Y D15J01
= 681 17709A D13 + P4
= 689 26798X A97D15J01
= 700 32746Y A60D21E15
= 724 45148Y A97D15H01J01
= 727 16897X D13
820 84942W D15H05
= 821 60429W D15

DK 7800
= 714 63400B A31D14J02 + P1
= 722 63401B D13E34
• 723 B D13

DK 7900
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= 602 64159B D12
= 637 63269B A32D22 + P2
= 638 61693B A96D22P2P7
= 639 59824B A97D25E11
= 640 61783B A96B04D16 + R1
= 643 68496B B04D16
= 650 65025B B04C03D16
= 663 44099B D11
= 687 63417B D12
= 711 63432B A35D18J01P1
= 721 47225B C03D13
= 731 63329B A97B05D16

DS 1617
= 023 20313W D23

DS 1767
= 484 32699R B07D22P3

DS 1918
= 130 20522R D13P4

DS 2000
= 462 49027R A11D14

DS 2001
= 127 50246R B05D21

DS 2160
= 318 35086U D21E23

DS 2222
= 992 74316U D22P3

DS 2245
= 019 07351V D17J01P4

DS 2406
= 811 61798V B04D16

DS 2504
= 618 55957W B03C02D23E15 + P1

DS 2505
= 157 55989W D18E13P1

DS 2512
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DS 2521
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DS 2629
= 694 06080Y A96D21

DS 2635
= 117 12473A D13

DS 2638
= 541 27463Y D15

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860 71082B B04D16
• 892 71884B D16
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• 944 71890B C03D13P1P4

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• 353 71906B D13
• 422 71912B A14D15F09
• 719 71922B D15

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• 183 71958B D11
• 217 71961B D11P2
• 474 71977B A83D22P2
• 536 71980B D12P4
• 696 71990B A96D22P3
• 794 72003B D15
• 813 72006B D15

DT 2902
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DT 2908
• 805 72048B A97D22J01P3
= 863 68123B D13P7

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DT 2909
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= 663 70384B B05D23E15
• 666 72061B A96D21P3
• 791 72062B D12Q3
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• 904 72069B A89D16J04R1

DT 2910
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• 021 72072B D21M26P3
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= 394 70355B D12
• 403 72077B D25E19F06
• 414 72078B A26B04D16J04R1
= 461 52610B D18P1
= 579 69926B D23E15

DT 2911
• 113 72092B D15F09J04 + Q7

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= 287 68262B A88D15J01
= 304 71922B D15
• 352 72125B B02D13E13
• 366 72133B D21E13
• 368 72134B D21E23
• 397 72146B A41D15E13
• 426 72160B A25D15H03
• 431 72162B D16M25
• 458 72169B D18F07P2
• 463 72171B D25Q3
• 466 72173B B02C02D16
• 502 72187B D12
• 514 72191B A96B07D21P3

FR 2412
= 262 29793B D11
• 263 72194B D16
= 264 47147B D13
= 265 53143B C03D13 + P3
= 266 47150B C03D13
= 267 67167A C03D13
• 268 72195B A21C03D13H09
• 269 72196B D11
= 270 31622B C03D13
= 272 04098B A97D18F04J01P1
= 274 18063B A88D18F04P1 + P4
= 276 47160B D22P2
• 303 72199B D21P3
= 305 47149B D22P3
= 307 67037A D21E33
= 308 47163B D23E17
= 314 47144B B04D16
= 316 22068B B07D14P3
= 333 06444B D15
= 334 49513B D15P7
= 344 31645B D14Q3R1 + P3Q5
= 402 47467B D15 + P7
= 405 31612B C03D15J04K07P7
= 463 51111B D13Q3
= 501 47189B D15
= 502 47396B D15 + P7
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= 504 47205B C04D15M28
= 505 47180B D15
= 518 51272B D21E19
= 522 31634B B05D13E14
= 526 47159B C03D22G02H08P3
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= 558 47152B B03D22E13
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= 563 49412B B03C02D22E13
= 564 51124B B03C02D22E13
= 565 49527B B03C02D22E13
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= 610 47208B A97D25E19
= 611 49431B D25E34
612 44073A C03D16
= 613 49536B A96B04D16

FR 2413
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GB 1553
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= 580 38384Y A14D21E14
= 610 27147Y A97D25
= 620 07619Y D15 + Q4
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= 635 54417Y D11
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= 664 96248X B04C03D16
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• 896 72240B D13
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= 899 52610B D18P1
= 900 66564B D13
• 901 72241B D13J04
• 909 72242B D14P2
= 928 68493B A96D22P3
= 938 65013B D15
= 939 52580B A31D14J02
= 942 37340B D15
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• 996 72257B D16
• 998 72259B A96D22

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= 107 72048B A97D22J01P3
= 125 72078B A26B04D16J04R1
• 146 72283B D13
= 147 63088B A97D13
• 160 72287B C03D22E24F09
= 281 72092B D15F09J04 + Q7

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= 512 11432V D23J08 + Q7
= 520 09095W A96D22E17
= 556 44375W D13E17
• 575 B D11
= 583 64252W A96D21
= 647 70713W D13
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= 726 76071W A89D15G06R2
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= 739 60417W B05D16E17
= 743 75710W D18E21
= 746 76773W D13E17
= 766 75729W D13E17
= 781 76099W D21M11P3
= 799 75749W D25
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•590 72514B A97B04D16
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•461 72690B D15
•462 72691B D15
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=098 52610B D18P1

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=617 94526X A96D22F07P3

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=599 63407X D13

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=986 [illegible] A96D21E11

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=640 [illegible] D11

OE 7607
=806 06375A D13

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=437 36723Y D23
=785 23637Y B03D13E13
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•789 B D13

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=172 61168Y D15E13
=312 63043Y D16J02
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=064 60378W C03D13

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=887 00070X A60D25E13F06

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•956 73316B D14

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=988 84084A D17E13

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•065 73505B D25
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•166 73556B D13
=197 22298B [illegible] + P3

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98 47152B B03D22E13
03 23389A A97D13E24

CENTRAL PATENTS INDEX

CLASSIFIED ALERTING BULLETIN

WEEK B41
28 NOVEMBER 79
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Food [illegible] Information Service
4 V 1980
C.F.T.R.I. MYSORE

ABSTRACTS

INDEXES

- **II - PATENTEE**
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Section D:

FOOD
DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	1 OCT - 8 OCT 79	875,170 - 875,412
-Non Delayed	1 OCT 79	876,710 - 876,879
CANADA	25 SEP 79	1,062,851 - 1,063,300
DENMARK	17 SEP 79	7,800,784 - 7,900,888
W. GERMANY		
-DAS	4 OCT 79	1,552,353 - 2,906,905
-OLS	4 OCT 79	2,706,968 - 2,913,605
FRANCE*	27 JUL 79 (BOPI 31 AUG 79)	2,413,022 - 2,413,861
UNITED KINGDOM	10 OCT 79	1,553,761 - 1,553,930
		2,017,471 - 2,018,100
HUNGARY	28 SEP 79	H002,463 - H002,468
		T016,981 - T017,100
JAPAN		
-Unexamined	—	46,004,299 - 53,024,046
	29 AUG - 5 SEP 79	54,110,140 - 54,113,438
-Examined	13 SEP - 19 SEP 79	79,027,921 -79,028,920
NETHERLANDS	17 SEP 79	161,333 - 161,649
	24 SEP - 30 SEP 79	7,511,331 - 7,904,424
NORWAY	17 SEP 79	7,800,572 - 7,902,239
PORTUGAL	20 SEP 79	65,573 - 69,164
SOVIET UNION	—	202,272 - 643,317
SWEDEN**	24 SEP 79	7,800,277 - 7,906,646
UNITED STATES		
-Reissues	2 OCT 79	Re30,104 - Re30,107
-Defensives	2 OCT 79	T987,001 - T987,004
-Patents	2 OCT 79	4,169,292 - 4,170,041
PCT	4 OCT 79	7,900,710 - 7,900,774

*Printed patents actually published mid September - early October, 1979

**Includes numbered Basics from Weeks B30, B31 and B32

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

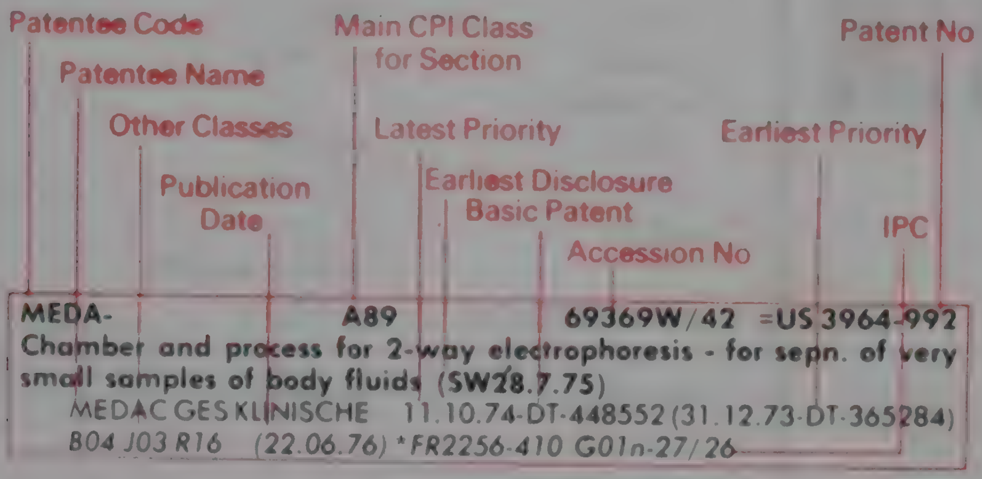
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry
A+	Polymer Applns.
AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
L	Refractories, Ceramics
M	Metallurgy

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
Publication Date
Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- A89 69369W/42 =US 3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

RAB- D11 52196V/29 =DS 2300-039
ough kneading machine - having two contrarotating elements of ctangular section terminated by triangles
BRABENDER OHG 02.01.73-DT-300039
*(04.10.79) *DT2300-039 A21c-01/08*

dough kneading element for dough testing consists of wo contrarotating mixing paddles. Each paddle has a ectangular central section, with a triangular section at ach end, flattened slightly at the top. Each of these ections is twisted over its length, with an acute angle the longitudinal axis. One of the triangular sections has t one end a cut-out, shaped like a quadrant, and the other as a similar cut-out at the opposite end.

This simulates the action of high-speed kneading achines so that their action on dough can be predicted, nd the required kneading time can be determined. . 1. 73 as 300039 (7pp39)

ABW ★ D11 73701B/41 ★DT 2812-122
rying of wheat gluten - by passing through cutter mixer with dried articles into flash dryer
BABCOCK-BSH AG 20.03.78-DT-812122 (00.00.77-DT-736549)
Q76 (04.10.79) A21d-02/38 F26b-03/12

he Parent Patent described the thermal treatment of stic- y materilas, esp of wheat gluten in a flash dryer by hot ir in concurrent or counterflow. The material to be treat ed is mixed outside the dryer with already dried particles n a ratio of 1:2-1:5 and reduced in size at the same time. he final drying then takes place in the flash dryer.

The addition patent achieves a substantial redn in power onsumption and a shorter drying time which helps to preserve the vitality of the gluten. 20. 3. 78 as 812122 Add to 2736549(6pp39).

SCHE/ ★ D11 73882B/41 ★FR 2413-035
Semiconductor control device for bakery ovens - avoiding hum and including vapour generator to improve quality of bread
SCHEYEN M 30.12.77-FR-039975
R59 (31.08.79) A21b-01/40 A21b-03/04 H05b-01/02

Electric bakery ovens are provided with a control device comprising contactors, conventional relays and semi-con -ductors for feeding the heaters and a programmer; a vap -our generator is included for improving the quality of the loaf. The control device renders it possible to feed one or other of the groups of heating resistances and thermostats can cut the feed to the compartments of the oven when the programmed temp. is attained.

The vapour generator consists of a container fed with water through the valve, one or more heating resistances, a regulating thermostat and electric valves controlling the supply of superheated water to the flash expansion boxes arranged in the different compartments of the oven. A safety valve is fitted to the container. The expansion boxes may also be fitted outside the cooking compartments of the oven, suitably placed inlets being arranged to secure good distribution of the vapour.

The control device economies in energy and avoids any hum. The water vapour preserves the flexibility of the crust and gives the latter a colouration and brilliant appearance whilst limiting the loss of water by undue drying of the bread during cooking. 30. 12. 77 as 039975 (7pp519)

GOAL/ ★ D11 73883B/41 ★FR 2413-036
Machine for automatic mfr. of pancakes etc. - by deposition of controlled shape, and thickness of paste onto cooking surface
GOALABRE R 02.01.78-FR-000097
(31.08.79) A21c-11

The machine is of the type which spreads an area of paste on to a cooking surface. The spreading device now comprises a paste reservoir in the form of a tank of which one side is a cylindrical drum rotating on a horizontal axis. A moving doctor blade in contact with the drum surface determines the width and shape of the paste area which is transferred by the drum from the tank to the cooking surface. Transfer is effected by relative movement between the spreading device and the cooking surface.

The doctor blade is pref. oscillated or reciprocated tangentially to the drum. The front edge of the blade is pref. concave so that oscillation releases a paste area of width which first increases to a max. and then progressively decreases again, e. g. a circular area. The doctor blade can pref. be locked in a fixed position so that paste can be deposited as a continuous band of selected width.

Used for mfr. of pancakes, girdle cakes, etc. The machine can deposit cleanly onto flat cooking surfaces or onto cylindrical cooking surfaces which may be below, above or alongside the transfer drum. The paste reservoir can be positioned well away from the cooking surface so that the paste does not become preheated. Width and thickness adjustments are easily made. 2. 1. 78 as 000097 (17pp448)

DCAF D11 26833Y/15 =GB 1553-925
Extruding dough products, esp. doughnuts, with liquid filling - using sleeved dough nozzle with valved concentric filling nozzle
DCA FOODS INDS INC 16.03.76-US-667379
*(10.10.79) *US4015-518 A21c-09/06 A21c-11/16*

Formation of two component food products is described using an extrusion nozzle and cutter to form sections of the plastic material while a filling mechanism within the nozzle body. The filling mechanism is selectively operated according to the operation of the outer shell forming mechanism to ensure the correct positioning of the filling within the shell.

The arrangement is esp. suitable for forming shaped pastries filled with jam or jelly. 29.12.76 as 054189(8pp)

SHIR- ★ D11 74593B/41 ★J7 9019-450
Binding mixt. for preparing buckwheat noodles - comprises glucose of starch powder and albumen
SHIRATORI SEIFUN KK 30.06.76-JA-077324
(16.07.79) A23l-01/16

Mixt. consists of 15-35 pts. of glucose of starch powder and 85-65 pts. of albumen powder. The mixt. is used for prepn. of buckwheat noddles as binder without damage to taste and flavour of buckwheat powder. 30. 6. 76 as 077324, A23l-1/16, (16. 7. 79) SHIRATORI SEIFUN KK (4pp42)(J53024046)

DIER ★ D11 74667B/41 ★NL -161-339
Dough kneading appts. comprising rotating tub - contg. two rotating kneading tools arranged to give minimum heat generation and vibration-free operation
DIERKS & SOHNE 30.04.68-DT-757361
(17.09.79) A21c-01/02

Dough is kneaded in a rotating tub with vertical cylindrical walls and a flat floor in which two kneading tools with vertical parallel axes are placed. Each tool comprises a screw-form longitudinal section and a horizontal floor leg, and the tools are so placed that the outer one almost scrapes the wall of the tub and rotates in such a manner that its direction of motion at the tub wall is opposed to that of the tub and that the furthermost inner point of the inner tool coincides with the axis of the tub.

The horizontal legs of the two tools are at right angles to each other and they rotate in the opposite sense. The design is such that no dough passes between the outer tool and the wall of the tub with the result that there is minimal generation of heat and the process is vibration free. 23.4.69 as 006246 (6pp1370).

BAKP D11 39853S/23 #NL-161-340
Biscuits prodn
BAKER PERKINS LTD 30.11.70-BE-759635 24.11.70 NL 017147
*(17.09.79) *BE-759-635 +A21c-03 A21c-09*

A continuous laminated strip of dough as is required for crackers with an additive enclosed between layers is mfd. by feeding a strip of dough continuously onto a conveyor moving at right angles to the dough feed direction. The feed device moves from side to side across the conveyor so that the dough layer is continuously lapped back onto itself. A second feed device for the additive also moves from side to side across the conveyor, its movement being synchronised with that of the dough feeder.

The additive supply is interruptible so that, on one traverse, a layer of dough followed by a layer of additive is laid, and, on the reverse traverse, the additive layer is covered by a second layer of dough. This is pref. achieved by means of two belt conveyors, one to receive the dough and the other to feed the additive. The additive conveyor is equipped with a constant speed drive and a constant feed device for placing the additive onto the conveyor. In addn., the belt has a means of extending its outer end to traverse the receiving conveyor.

The rate of extension is equal to the rate at which dough is deposited and also equal to the speed of the additive belt. This is an extremely simple and economic process c.f. prior art. 24.11.70 as 017147 (7pp1370).

D12 : MEAT; FISH PROCESSING

PROV= D12 04701A/03 =DS 2729-094
Solid particles condensed from fish roe soln. or suspension - with thorough cooling and forced circulation of cooling liquid
PROVISIONS EQUIP (HETO) 28.06.76-SU-378188
*(04.10.79) *DT2729-094 A23p-01*

Artificial cavier is produced from a soln. of albuminous substances which are metered by a perforated disc, rotating over a perforated plate, and extruded into a heat exchanger. The top end of the exchanger tube are coaxial with the plate perforations to which they are joined by protruding nozzles of an intermediate heat insulating plate. They leave a narrow annular gap and the soln. dropped through the nozzles solidifies to roe-like grains.

This produces artificial roes of adequate quality. It consumes little working fluid and has a high throughput. 28.6.77 as 729094 (8pp39)

DALM- D12 19714A/11 =DS 2749-293
Machine to extract edible muscles from crustacea - esp. antarctic krill fresh or frozen on ship or shore
DALMOR PRZED POLOWOW DAL 03.11.76-PO-193450
*(04.10.79) *BE-860-439 A22c-29/02*

A machine to separate the edible muscle from the abdomen of antarctic Krill, leaving the inedible albumin layer on the chitin carapace, includes a high-inertia high-speed impeller woth a working disc on a vertical shaft. A feed bush, centrally mounted, has a serrated ring close to the working disc. Vertical pins leave between the active surface of the working disc and their pointed ends a narrow gap, the pointed ends are inclined at 10-30° to the vertical. Angular pins termine 20 mm below the rim of the working disc.

This machine has a low power consumption and produces a good yield of Krill food for direct use of for preserves. 3.11.77 as 749293 (8pp39)

FARH ★ D12 73767B/41 ★DT 2813-847
Tubular package sheath - with plastic coating for inside or outside location after filling with contents esp. sausage meat
HOECHST AG 31.03.78-DT-813847
A92 Q31 (04.10.79) A22c-11/02 B65b-03

Hoses with an outer coating of a plastic can be filled, e.g. with sausage meat, in the usual way by pulling them in corrugated shape over the filler tube of a sausage medium. If the coating is to lie inside, in contact with the filling, a short end piece is freed from corrugations, closed and pushed, closure first, into the open end of the filler tube. The corrugated rest is then pushed over the filler tube.

This system is partic suitable for the alternative utilisation of sausage skins, made of hydrated cellulose, with or without fibre reinforcement, and with an outer coating of vinylidene chloride copolymer. 31.3.78 as 813847(19pp)

DAIK ★ D12 73983B/41 ★GB 2017-887
Appts. for chilling poultry carcasses - with repeated spraying of carcasses with water during chilling
DAIKIN KOGYO CO LTD (DAIK- IJIC-) 30.03.78-JA-037823
(10.10.79) A23b-04/06

Chilling appts. for broiler carcasses includes a chilling room having an inlet and outlet. A conveyor continuously carries the carcasses along a path from the inlet to the outlet. An air chilling unit supplies cold air to the room and a water spray device supplies water to the surface of the carcasses.

Carcasses are loaded onto the conveyor just upstream of the inlet, and unloaded just downstream of the outlet. The conveyor comprises a continuous rail with shackles mounted for movement along it. In use the carcasses are sprayed with the water several times and the chilled air is passed over the moistened carcasses.

Appts. is partic. for chilling eviscerated poultry carcasses. Cross-pollution and shrinkage and discoloration of the carcass surface is minimised. 8.9.78 as 036181 (15pp295)

NICA ★ D12 74119B/41 ★J5 4110-352
Artificial roe prodn. - by preparing liq. droplets of roe material, dropping into stream of coagulating liq., sepg. from stream, dropping in film-forming liq., etc.
NIPPON CARBIDE KOGY KK 20.02.78-JA-018363
(29.08.79) A23l-01/32

Process comprises (a) preparing liq. drops of roe substance with a special nozzle so that the core substance is covered with the base substance; (b) dropping the liq. drops into a stream of coagulating liq.; (c) sepg. them from the stream; (d) washing with water; (e) dropping into a stream of film-forming liq.; (f) sepg. and washing with water; and (g) gelling to a prescribed hardness.

Pref. the special nozzle has such a structure that the horizontally projected plane of the head cross-section of the nozzle for the core substance is included (partly) in the horizontally projected plane of the head cross-section of the nozzle for the base substance. The nozzle is pref. installed such that the distance between the head of the nozzle and the surface of the coagulating liq. is 5 - u/2.5 mm favourably 10-70 mm (u is viscosity of the base substance at the dropping temp. in cps.).

Artificial roes similar to those of salmon, trout, etc. which are excellent in taste and flavour, form and texture can be prepared easily. 20.2.78 as 018363 [illegible].

DAIW ★ D12 74120B/41 ★J5 4113-3
Prodn. of protective casings for ham, sausages, etc. - using cellulose and polyolefin fibre sheet impregnated with viscose
DAIWA SPINNING KK 15.02.78-JA-016737
A97 Q31 (29.08.79) A22c-13 B65b-09/16

The method comprises (a) mfg. a fibrous sheet from 25 - 60 w/w% of the fibre-form or the pulp-form fibrous material of polyolefin resin and balance wt.% of cellulose ibre, (b) heating the fibrous sheet at a temp. above the softening point of the polyolefin resin, thus softening or melting the polyolefin resin fibre and bonding the fibres n the fibrous sheet each other, (c) impregnating viscose nto the fibrous sheet and (d) reclaiming cellulose by treating the viscose with sulphuric acid.

The fibrous sheet has excellent strength partic. under wet and/or alkaline condition and does not undergo breakage when impregnating the viscose. Thus it can be prepd. inexpensively by a simple process with high productivity. It is used to form protective casings for ham, sausages, etc..

As cellulose fibre Manila hemp, etc. is pref. used and it is pref. to use rayon fibre 10-30 w/w% on the fibrous sheet together with Manila hemp for attaining the porous bulky fibrous sheet. It is also desirable to treat the fibrous sheet with nonionic surfactant such as sucrose fatty acid ester, polyoxyethylene-phenolether, etc. for improving the impregnation of viscose. 15.2.78 as 016737 (4pp5).

DAIW ★ D12 74121B/41 ★J5 4110-357

Prepn. of protective casings for meat - by treating cellulose sheet with thermoset resin and reactive acrylate resin, heating, covering with viscose and regenerating cellulose

DAIWA SPINNING KK 15.02.78-JA-016738

A97 Q31 (29.08.79) A22c-13 B65b-09/16

The method comprises (1) treating fibrous sheet of cellulose fibre with (a) cationic thermosetting resin composed of reaction prod. of polyamide having sec. amine group and epichlorohydrin and (b) reactive acrylate resin, (2) heating the treated fibrous sheet to harden the resin mixture, (3) covering with viscose and (4) regenerating cellulose by treating viscose with H_2SO_4. Fibrous sheet which shows excellent strength partic. under wet condition and/or alkaline condition, can be obtd.. (I) can be used favourably as material for protective casings of ham, sausage, etc..

Specifically the cationic thermosetting resin(a) and the reactive acrylate resin(b) are used with the solid proportion 1:3-10. Pref. the fibrous sheet is treated with nonionic surfactant such as sucrose fatty acid ester, polyoxyalkylphenolether, etc. for improving the impregnation of viscose. 15.2.78 as 016738 (4pp).

TOXN ★ D12 74591B/41 ★J7 9011-374

Colouring meat e.g. beef and pork - by impregnating with mixt. of pink pigment obtd. from Monascus purpureus and e.g. (deoxy)adenosine, (deoxy)cytidine or thymidine

TOYO JOZO KK 07.06.74-JA-065228

E19 (D16) (15.05.79) A23l-01/27

Pink pigment produced from 'Monascus purpureus' of microorganism is mixed with adenosine, deoxy-adenosine, guanosine, deoxy-guanisone, cytidine, deoxy-cytidine, thymidine, adenosine-monophosphoric acid, denosine-diphosphoric acid, adenosine-triphosphoric acid, guanosine-monophosphoric acid, cytidine-monophosphoric acid, cytidine-triphosphoric acid, thymidine-monophosphoric acid, cytosine-deoxy-riboside-diphosphate ester, ribonucleic, deoxy-ribonucleic acid or their salt(s) and the resulting mixt. is impregnated in various kinds of meats.

The colourising process is suitable for ham, sausage, tuna, salmon, swine meat or beef. 7. 6. 74 as 065228 A231-1/275 (15. 5. 79) TOYO BREWING KK (4pp15)(J5 0155658)

EBAR D12 74704Y/42 =J7 9028-312

Animal feed prodn. waste gas purificn. - by condensing volatile components, passing through furnace and steam treating

EBARA MFG KK 03.03.76-JA-022772

*J01 (D22) (14.09.79) *J52105-566 B01d-53/34*

Systems for treating fish and animal meats are deodourised by cooling in indirect heat exchanger to separate gaseous components from its liquid components. The liquid components are further sepd. into a gas and liquid through a dispersing device. The gas components from both heat exchanger and dispersing device are fed into a furnace to remove odour from the gas components, and the liquid components are sepd. in the dispersing device are contacted with a steam to thermally decompose the odour components remaining in the liq. to reduce the BOD load. 3.3.76 as 022772, B01d-53/34 (14.9.79) EBARA MFG KK (4pp) (J5 2105566)

NANK- ★ D12 74640B/41 ★J7 9028-462

Pickled Kibinago fish mfr. - by sterilising fish in aq. alcohol soln. soaking in sterilised seasoned vinegar, washing with aq. soln. of acid and alcohol and pressing

NANKAI SHOKUHIN KK 20.06.74-JA-070529

(17.09.79) A23b-04/12

Method comprises sterilising Kibinago Stolephorsustaponicus. in aq. soln. of alcohol soaking the fish in heat-sterilised, vinegar contg. seasoning at 15-20°C for 10-15 hrs. washing the fish with aq. soln. of acid and alcohol, and lightly pressing the fish. 20.6.74 as 070529, A23b-4/12 (17.9.79) NANKAI SHOKUHIN KK (2pp83) (J5 0160456)

MITS ★ D12 74641B/41 ★J7 9028-463

Thawing frozen meat in absence of oxygen - by placing frozen meat and oxygen-absorbing agent in sealed container and thawing

MITSUBISHI CORP 17.02.75-JA-020180

(17.09.79) A23b-04/06

Method comprises placing frozen meat and an oxygen-absorbing agent (I) in a sealed container and thawing the frozen meat in the absence of oxygen. (I) is e.g. pyrogallic acid, oxalic acid, sodium sulphite, or sodium dithionite. When dithionite is used, an SO_2 absorbing agent such as alkali hydroxide is also placed in the container. 17.2.75 as 020180, A23b-4/06 (17.9.79) MITSUBISHI CORP. (4pp83) (J5 1106759)

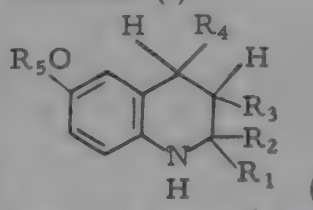
CANP D12 48207Y/27 =NL-161-341

Meat-curing solns. contg. (1,2,3,4)-tetrahydro (6-alkoxy quinolines - which reduce nitrosamine content of the cooked meat

CANADA PACKERS LTD 22.12.75-US-643558

*E13 (17.09.79) *NL7614-183 A23b-04/02*

Preserved meat produced by treating with a nitrite forms little or no nitrosamine when cooked if it is treated during or after the preserving process with a hydroquinoline of formula (I).



(I)

In the formula, R_{1-4} are H or 1-6C alkyl; and R_5 is 1-12C alkyl.

Pref. the preserved meat is treated with a pickling soln. contg. 0.001-0.2 wt. % of the 1,2,3,4-tetrahydro-6-alkoxyquinoline, such that the treated meat contains 1-200ppm. of the quinoline deriv. Fresh meat can be preserved for a year by the method. 21.12.76 as 014183 (10pp913).

SLAG- D12 00392T/01 =NL-161-577

Fat/meat thickness sonde - with ac bridge circuit three electrodes and three lamp indictor handle

SLAGTERIERNES FORSK (SLA -) 20.02.70-DK-000853

*+R11 (17.09.79) *DT2107-114 +G01b-07/06*

The thickness of the fat layer on a carcass is determined using a pointed probe which is inserted into the flesh and carries two electrodes insulated from each other for the measurement of the resistance of the tissue. The probe is also equipped with a space scale which enables the depth of insertion to be read. When the point penetrates the meat layer, a change of resistance indicates that the interface between fat and meat has been reached.

In order to eliminate the errors caused by variations in resistance of one type of tissue, the probe is equipped with at least three electrodes in the form of rings, the lower of which is at such a distance from the point that a true penetration of the boundary layer between fat and flesh is guaranteed before the electrode reaches this interface. The electrodes are connected in pairs across a measuring bridge and, by using a high frequency for the measuring source, variations in resistance within one layer are readily and accurately identified and eliminated. 19.2.71 as 002217 (8pp1370).

NMHB D12 74149X/40 =SU-638-239

Fish processing machine - with control system for determining movement of insertion of tool in fish or varying size or type

NORDISCH MASCH R BAADER 11.03.75-DT-510421

*(15.12.78) *DT2510-421 A22c-25/14*

For the control of the moment in time a, which a tool, e. g. , a cutting tool is inserted in a fish transported at uniform speed in its length direction in a fish processing machine, in which each fish is sensed at successive positions in its length direction and pulses at uniform intervals are used for time measurement (a) the control of the instant at which each tool is inserted results automatically from the attainment a pre-set number of pulses varying for each tool and counted from the moment of sensing a precisely defined position of the fish (b) each pre-set number of pulses is obtd. by adding or subtracting two series of pulses of differing frequency the first of which arises between the first and a second precisely defined position of the fish and the second arises after the sensing of this second position. Permits control of the instant at which insertion of a tool is made at any desired position along the path of motion of the fish with greater precision than hitherto and without the need for mechanical time couplings yet with high cost for electronics. The control operates for precision processing of fish of varying size. Hartmann, F., Lyuk, H., Golnits, H. Bul. 46/15.12.78. 12.2.76. as 322603 (3pp)

TEKH= ★ D12 75016B/41 ★SU -643-140
Fish sorting appts. - with television camera in conveyor gap, for analysis of shape, size and colour, and sorter control
TEKHRYBPROM EXPER 03.08.77-SU-514461
(25.01.79) A22c-25/04

The installation comprises two V-shaped conveyors each formed by two belts and with a gap between their ends, and a television camera directed at the gap through a semi-transparent screen and glasses carrying mosaic colour filters.

The camera is connected via an analysis and control unit with a sorting mechanism. The mechanism consists of a spindle on , and perpendicular to the downstream conveyor, and carrying downwardly converging plates which can be pivoted to adjust the slot between the belts. The spindle is connected to an electromagnetic clutch.

The system permits evaluation of even slight colour variations in fish and the presence of spots and stripes, also comparison of shape and size.
Oborotov, V.P., Zabiyakin, V.P., Savenkov, L.G. et al
Bul. 3/25.1.79. 3.8.77. as 514461 (3pp1358)

MCCO/ ★ D12 75094B/41 ★US 4169-30
Meat tenderising knives mounted on ram - with spring loaded ba coupling releasing knife at predetermined back thrust
MCCULLOUGH T J 23.11.77-US-854375 (16.04.76-US-677796)
(02.10.79) A22c-09

A meat tenderiser comprises a reciprocating head which carries an array of knives to penetrate a meat carried on a base-plate. A stripper surrounds the knives and strips the meat from them on the return stroke of the head.

Each knife is attached to the head by a thrust limiting module comprising a set of spring loaded balls which seat in an annular groove cut into the knife supporting shaft. When a critical thrust is reached e.g. by the knife engaging a bone the balls move radially outwards and allow the knife to become uncoupled from the head.

The knife release mechanism triggers at a preset thru to prevent damage to the blade. 23.11.77 as 854375 (11pp)

See Also

D13 NL 161349 . D13 NL 161514 D16 DT 2813714

D13: OTHER FOODSTUFFS

CHIR- ★ D13 73612B/41 ★BE -875-334
Uncooked food prod. contg. meat or fish and cereals - used as a flour, semolina, concentrate or isolate hydrated in milk
CHIRON SA 05.04.78-FR-010157
(05.10.79) A23l

The prod. in refrigerated or deep frozen form based on chopped up raw meat and leguminous or proteaceous cereals which can be grilled, roasted or fried, comprises cereals used in the form of flour, semolina, concentrate or isolate hydrated in milk. The prod. is prepd. by hydrating the cereals in milk to form a paste, cooling to 0 to -20° C, mixing the product at <0° C with the raw meat in a mincer, followed by mixing with other ingredients and minxing in a finer mincer, then forming and cooling or deep freezing the prod.

The prods. are rissoles, beefburgers, etc. They are economica, nutritionally balanced and good tasting. They have a good consistency and the milk completely neutralises the taste of the cereals. 5.4.79 as 875334 (11pp597)

DIVE ★ D13 73649B/41 ★BE -876-788
Multielement pipe filter for milk, wine effluent etc. - has reinforced plastic mesh element which does not rupture in service
DIVERSEY CORP 06.06.78-GB-026380
A88 J01 (D15 D16) (01.10.79) B01d

A pipeline filter and removable filter elements for use in the filter are described. The filter comprises a housing contg. several filter elements in series between filter inlet and outlet. Liq. is now passed in sequence through filter elements of progressively finer mesh size. Each element comprises a filter mesh with a support mesh superimposed on its downstream face. Each support mesh has a mesh size greater than that of filter mesh of the coarsest filter element. The filter elements are pref. flat.

The support mesh is pref. of a mesh size 160-950μ. Th The elements pref. have filter meshes of 140-200μ at the inlet end of the filter and 40-80μ at the outlet end. Filter and support meshes are pref. in woven thread of nylon, polypropylene, polyester, polystyrene or PTFE.

The filter is also used to treat effluents in tanning, metal plating paint and hydraulic industries. It provides fine filtration without risk of rupturing element at pipeline pressures. The elements are inexpensive, easy to clean and replace. 6.6.79 as 876788 (22pp448)

COLL/ - D13 06961S/04 =DS 2006-742
Fruit pulp extractor
COLLET P (COL /) 19.02.69-FR-004077
*P28 +P62 (04.10.79) *FR2032-103 +A47j-19/02 B26d-03/26*

A machine to core the fleshy parts of citrus fruit includes two carriers, each with a semicircular hollow, to clamp the fruit, leaving the bottom and exposed. A cutter blade shaves off the peel and a small part of the flesh. The two carrier halves are pushed against a spring down alon a vertical guide until a blade assembly enters the fruit through the gap between the carriers, The blades open ou to a circular shape (or an elliptical shape in the case of lemons) and their rotation cores the fruit. The juice and the flesh drop into a container.

This machine is simple in design and efficient in oper tion. 14.2.70 as 006742 Add into2121016 (5pp39)

TSUK D13 50975W/31 =DS 2510-84
Preservative compsn. for agricultural prods. - contg. a dispersion hydrophobic microparticles in an aq. medium contg. water solub high polymer
TSUKIBOSHI GOMU KK 26.10.74-JA-124123 (13.03.74- 029691)
*A97 (04.10.79) *BE-826-614 A23b-07*

A preservative coating for foods such as fruit, vegetable grain and eggs comprises a natural wax, vegetable oil, mineral oil and/or paraffin as disperse phase in an aq. emulsion contg. colloid forming cpds. (I) and opt. other auxiliaries.

The wt. ratio of dispersed oil to cpd (I) is 10:0.2 to 10:3 and the dispersed oil has a particle size of 0.1-10 Cpd. (I) may be a protein, alginate or PVA. 12.3.75 as 510840 (10pp068)

ATW D13 63459A/36 =DS 2718-797
urified phosphatidyl-choline or lecithin oils - obtd. by extn. of ude phosphatide(s) with alcohol(s), pref. ethanol and treatment ith alumina
NATTERMANN A & CIE GMBH 27.04.77-DT-718797
*B04 (D21 D23) (04.10.79) *BE-866-461 A23j-07*

il-contg. high purity phosphatidyl chloines, with a high ontent of essential fatty acid, are obtd. from commerical il-contg. crude phosphatides. The raw material is extracted with a 1-3C alcohol, and the extract immediately ontacted with aluminium oxide. The material is then e-extracted with alcohol.

The alumina used is e.g. basic or neutral, or Brockmnn standardised. The prod. has an esential fatty acid ontent of 70% of the crude material, and is free from ephalins and inositol phosphatide. It is used in daily oral doses of 2g to treat arterioschlerosis, diabetes, yperlipidaemia, regulating the metabolism by lowering blood lipid levels. The prods. also have dietary and osmetic applications. The phosphatidyl choline oils contg. olyunsatd. acids are more readily absorbed than conventional aq. compsns 27.4.71 as 718797 Add to 1617679, 617680 (4pp913)

RHON D13 68928A/39 =DS 2812-977
Agglomerated mineral supplement for animals - obtd. by addition of water to dry mixture, then cooling the warm fluid paste
RHONE-POULENC INDUSTRIES 23.03.77-FR-008633
*C03 (04.10.79) *BE-865-196 A23k-01/17*

Prepn. of mineral animal fodder additive comprises grinding a powdered, almost dry mixt. of edible water-soluble phosphate, esp. NaH_2PO_4, Na tripolyphosphate, $NaCaPO_4$ and/or NH_4 phosphates($\geq$30 wt.%) edible Ca cpd(s), esp. the oxide, hydroxide, carbonate, lactate, chloride, stearate, propionate, sulphate and/or acetate, (10 wt.% or more), and $\geq$1 partially water-soluble phosphate (esp. $Ca_3(PO_4)_2$, $AlPO_4$ and NH_4MgPO_4), with water, (25-70 wt.%), opt. in the presence of a water spray, (5-25 wt.%) the mixt. is allowed to cool to about 20° for 2-3 hr to obtain a granulate of adequate hardness and brittleness.

Pref. prods. contain 30-60 wt.% soluble phosphate. 5-25 wt.% Ca and up to 12 wt.% Mg. 23.3.78 as 812977 (5pp047)

MILC- ★ D13 73772B/41 ★DT 2814-056
Parmesan cheese mfr. - adding dry common salt in mixer before mould pressing operation
MILCH-UNION OBERBAY 31.03.78-DT-814056
(04.10.79) A23c-19/02

Parmesan or similar hard cheese is produced by pressing in a mould and by enrichment with common salt until the desired concn (3%) has been attained. The salt is added dry to the coagulated cheese particles after the whey has been removed. This mixture is pressed in a mould and immediately transferred to the ripening store.

The system save the retention of the cheese for 30 days in a brine so that the capital costs for the plant and building (30% of the total) are also saved. 31.3.78 as 814056 (7pp39).

TEBB- ★ D13 73778B/41 ★DT 2814-122
Preparing stable milk beverage contg. alcohol and fruit juice - comprises pretreating milk with lactic acid pref. generated in situ
TEBBENHOFF J H KG 01.04.78-DT-814122
(D16) (04.10.79) A23c-09/10 C12g-03

In the prepn. of alcoholic milk beverages contg. acid fruit juices, the milk is pre-treated with lactic acid and/or its salts before adding the acid fruit juices and alcohol. A stable emulsion or dispersion of components is achieved, resisting storage in bottles for several months, at 25°C without unmixing.

The lactic acid and/or salts can be generated in milk itself by microbiological activity on lactose, pref. using a microflora which converts lactose to lactic acid and partly also to alcohol. Microflora inactivation is prevented by adding alkali to maintain pH 3.5-5. The de-stabilising effect of fruit-juices on milk and/or beverage can be overcome by adding sugar. 1.4.78 as 814122(6pp200).

KOTT/ ★ D13 73782B/41 ★DT 2814-295
Low calorie crisp, pref. chipped, meat roast snacks - are prepd. by finishing and cooking, cooling, comminuting and drying
KOTT R 03.04.78-DT-814295
(04.10.79) A23l-01/31

Nibbling snacks having a high surface/vol. ratio, present esp. as chips, consist of dried, finished e.g. cooked meat roast, pref. contg. $<$ 15 ($<$ 5) wt.% water.

The snacks are easily digested and are low in calories, and can be eaten between meals without increasing daily calorie intake. Crispness can be achieved without frying in oil.

The snacks pref. consist mainly of lean beef but may contain $<$ 30 wt.% plant materials, esp. cereal prods., e.g. flour or flour prods., esp. bread crumbs. Soya bean flour or soya meat-substitute may be used. 3.4.78 as 814295(9pp200).

MILE ★ D13 73814B/41 ★DT 2909-854
L-Aminoacid-substd. polypeptide food additive prepn. - by reacting protein, aminoacid alkyl ester hydrochloride and proteolytic enzyme
MILES LABORATORIES INC 23.03.78-US-889441
(D16) (04.10.79) A23j-03 A23l-01/20 C07c-102 C07c-103/52 C07g-07

L-Aminoacid-substd. polypeptide, (A), prepn. takes place by (a) preparing an aq. mixt. of a protein, an alkyl ester-hydrochloride of an aminoacid and a proteolytic enzyme;(b) reacting the mixt. pref. at initial pH 6-11 (8-10) and incubating at 20-40 (37)°C, and (c) recovering the prod. (A) from the mixt., e.g. by dialysis or pptn. with a solvent.

(A) is used in the prodn. of aminoacid-enriched protein foods. The prod. has apleasant taste. Essential aminoacid content is increased, e.g. methionine content was increased 6 x w.r.t its content in initial protein. 13.3.79 as 909854(22pp200).

PERR/ ★ D13 73884B/41 ★FR 2413-044
Preserving fresh or cooked food e.g. hard boiled eggs - in soln. contg. organic acid and alkaline metal salt
PERRY D 30.12.77-FR-039944
(31.08.79) A23b-05 A23l-03/34

The fresh or cooked foods contg. lipids, protides, and glucides are preserved by keeping the products in a soln. contg. at least one organic acid type preservative and at least one alkali metal or alkaline earth metal salt antioxidant. A particular embodiment employs an acetic acid type preservative.

The exemplified food is hard boiled eggs. The method enables 15-20 days storage avoiding germs and without affecting the nutritive, morphological and organoleptic properties of the eggs. It has been shown that storage in the cold under vacuum or in aq. soln. affects the above properties. 30.12.77 as 039944 (5pp597)

INRG D13 94700X/51 =GB 1553-890
Feedstuff for bees based on maltose syrup - obtd. by hydrolysing starch, and pref. fortified with corn steep liquor (BE081276)
INST NAT RECH AGRON 25.02.76-FR-005271 (06.06.75-FR-017797)
*C03 +P14 (D17) (10.10.79) *DT2625-283 A23k-01/18 +C13k-07*

The feeding of bees comprises the use of a feed consisting of a syrup of meltose obtd. by enzymatic hydrolysis of starch and having a proportion of maltose such that the prod. does not crystallise. The feed is free of substances toxic to bees and has contents of polysaccherides, mineral substances and reversion prods. below the levels at which these substances are not tolerated by bees.

Pref. the feed also contains glucose, isomerised glucose, fructose, saccharose or glucose syrup. Pref. the maltose syrup comprises (on a dry solids basis) 68% maltose, 21% maltotriose, 2.5% glucose and 8% polysaccharides. 7.6.76 as 023391 (5pp393)

HOWA- ★ D13 73928B/41 ★GB 2017-515
Machine for mixing and dispensing animal feed - has a two-speed drive, the lower speed being for mixing and the higher speed for discharging
HOWARD MACH LTD 24.04.79-GB-014261 (21.02.78-GB-006784)
C03 (10.10.79) B01f-07/02 B01f-15/02

The machine comprises a mobile container of part-cylindrical form. A rotor shaft extends axially of the container, and rigid members are axially spaced along the shaft and are attached to it. The outer ends of the members are adjacent the inner wall of the container. A drive is transmitted to the shaft and the transmission device includes a change speed device so that the shaft can be rotated at one of two speeds. The lower speed is used for mixing material in the container, while the higher speed is used to discharge the container contents. A conveyor is located externally of and parallel to the container to receive discharged mixed material.

The container is towed behind a tractor and is used to mix and dispense animal feedstuffs. 24.4.79 as 014261 (7pp295)

UJEL- ★ D13 B/41 ★HU T016-991
Making liquid eggs temporarily storage-stable - by treating with potassium sorbate and citric acid and cooling
UJ ELET MEZOGAZDASA 13.10.76-HU-UE0075
E12 (E17) (28.09.79) A23b-05/02

PHYL- ★ D13 B/41 ★HU T016-993
Solid, particulate, high-protein, high-starch feedstuffs - made from polyhydroxy cpd. -urea complex
PHYLAXIA OLTOANYAG 13.06.77-HU-FO0768
C03 (28.09.79) A23k-01/16 C07c-127

DEAK ★ D13 B/41 ★HU T017-000
Prepn. of low-calorie foods, esp. spreadable prods. - in the form of storage-stable thermoreversible gels
AKAD WISSENSCHAFT DDR 28.03.78-HU-WI0268
(28.09.79) A23l-01/30 C08l-03

GENO ★ D13 74000B/41 ★J5 4085-966
Prodn. of dog food with improved taste - by saponifying fat with caustic alkali, neutralising and adding the fat to dog food
GENERAL FOODS CORP 19.12.77-US-862256
C03 (09.07.79) A23k-01/18

Prodn. of dog food comprises treating a fat with NaOH or KOH and to obtain saponified fat contg. $\geq$30 wt.% of sepd. fatty acid, adjusting the saponified fat to PH 6 - 9 by neutralisation and adding the saponified fat in an amt. of 0.1 - 5.0 wt.% to the dog food. The fat is tallow, butter oil or coconut oil.

The dog food contains a high amt. of nutrients. 4.12.78 as 149903 (7pp15).

HOHN ★ D13 74046B/41 ★J5 4110-210
Barbecue oil prepn. - by mixing carbon di:oxide-generating cpd. with soln. of a phosphatide in oil and dissolving in vegetable oil
HOHNEN OIL KK 18.02.78-JA-017986
(29.08.79) A23d-05/02

A substance which generates gaseous CO_2 by heating is admixed into a 10 wt.% concn. soln. of phosphatide in an oil. The mixt. is, after heating to > 80°C and filtration, added and dissolved in a vegetable liquid oil to prepare a barbecue oil having 0.5-5 wt.% phosphatide. The barbecue oil causes no colouration and spattering.

Pref. phosphatide is phosphatide of soyabean, corn, cotton seed oil, or rape seed oil. Pref. oil for dissolving the phosphatides is solid or semi-solid animal or vegetable oil such as soya bean oil, corn oil, palm oil, several hardened oils, butter, margarine, etc.. Pref. substance which generates gaseous CO_2 by heating is $(NH_4)_2$-CO_3, NH_4HCO_3, $NaHCO_3$, K_2CO_3, $CaCO_3$, baking powder, etc., 18.2.78 as 017986 (3pp126).

NAKA- ★ D13 74124B/41 ★J5 4110-366
High glutamic acid-contg, salt-free seasoning soln. prodn. - by decomposing protein with protease contg. glutaminase, obtd. from koji, with addn. of ethanol and acetic acid
NAKANO SU-MISE KK 20.01.78-JA-004236
(29 08 79) A23l-01/22

The method comprises decomposing protein(-contg. substance) with protease contg. glutaminase produced from koji mould, with addn. of ethanol and acetic acid so that their concn. is 1-5 and 0.03-0.5 v/v% respectively before decomposition.

By using ethanol and acetic acid together at low concns. multiplication of microbes can be synergically suppressed and protein can be decomposed without harmful effects. The seasoning soln. can be obtd. in high yield. The decompsn. is pref. at 40-50°C for 3-10 days. 20.1.78 as 004236 (5pp5).

KITA/ ★ D13 74244B/41 ★J5 4111-4
Accelerating growth of silkworms - by spraying mixed aminoac soln. contg. aspartic acid over mulberry leaves and feeding leav to silkworm
KITANO M 17.02.78-JA-017841
C03 E16 (31.08.79) A23k-01/18

Mixed amino acid soln. contg. 2 - 15 ppm of aspartic acid is sprayed over the surface of mulberry leaves and silkworm is fed with the treated mulberry leaves. Growth of silkworm is accelerated without causing harmful effect to the silkworm. The amino acid used includes aspartic acid, glutamic acid, threonine, serine, proline, glycine, alanine, valine, isoleucine, leucine, thyrodine, phenylalanine, cysteine, histidine, alginine, etc..

In an example, dil. soln. contg. the amino acid is sprayed over the surface of mulberry leaves. and after 20 days, the leaves are harvested, and, then the silkworms are fed by the leaves. By this feeding, cocoon yield is improved in the terms of the total cocoon weight and weight per cocoon. 17.2.78 as 017841 (6pp22).

HOHN ★ D13 74469B/41 ★J5 4112-82
Preventing phospholipid heat colouration - by adding aceti anhydride or alkali metal acetate to its soln. or dispersion in oil o fat
HOHNEN OIL KK 22.02.78-JA-019193
B05 C01 E11 (D23) (04.09.79) C07f-09/10 C11c-03

In heating > 0.2 wt.% soln. or dispersion of phospholipid in fats and oils at > 150°C, Ac_2O or an alkali metal salt of AcOH is added to the soln. or dispersion to prevent colouring of phospholipid. Pref. phospholipid includes those contained in soybeans, corns, corn seed oil or rapeseeds, or lecithin. The fats and oils include soybean oil, corn oil, cotton seed oil, sesame oil, sunflower oil, groundnut oil e.g. vegetable oils which are liquid at usual temp., and palm oil, etc..

Phospholipid is used in large quantities in food, medicine and feed industries since it has a surface activating action as well as antioxidant and blood-cholesterol lowering actions. Phospholipid is very unstable to heat and turns brown at > 150°C even when protected with fats and oils. Addn. of Ac_2O or an alkali metal salt of AcOH prevents the colouring. 22.2.78 as 019193 (2pp).

DAAG ★ D13 74592B/41 ★J7 9011-37
Beverage contg. protein produced by microorganisms - usin Torulopsis utilis yeast from which odorous components are extracte with hot water or aq. alcohol
DAINIPPON SEITO KK 21.02.73-JA-020249
(15.05.79) A23l-01/28 A23l-02/38

In the prodn. of a beverage contg. protein a yeast of Torylopsis utilis is treated with water having at 60-150°C or aq. alcohol soln. having alcoholic concn. of $\geq$30wt.% to extract odour components and astringent components. insoluble cellular component contg. protein sepd. from the extn. soln. is finely crushed in a roll mill and the resulting crushed cellular membrane is used to accelerat an enzymatic reaction over 0.5-2 hrs.

An odourless beverage contg. protein is thus produce from microorganism. 21.2.73 as 020249 A231-2/38,1/28 (15.5.79) DAI-NIPPON SEITO KK (3pp15) (J4 9124242

RHON D13 49430S/30 = J7 9028-4
Isozeaxanthin and its esters from retrodehyd
RHONE POULENC SA 15.01.70-FR-001415
*B05 C03 E24 (E14) (17.09.79) *DT2101-869 + C09b-61*

Reaction of retrodehydro-β-carotene with iodine in the presence of a satd. monocarboxylic acid and of an org. base gives the corresp. ester of isozeaxanthin (4,4'-dih roxy-β-carotene) with the satd. monocarboxylic acid, thi ester can opt. be hydrolysed to give isozeaxanthin.

The prods. are carotenoid pigments useful for colouri foodstuffs or as intermediates for other foodstuff pigmen such as canthaxanthin. 13.1.71 as 000741. (clg. 15.1.70- FR-001415) C09b-61/00 (17.9.79) RHONE-POULENC S (2pp) (J4 6000181)

ENM D13 76427S/48 = J7 9028-461
Meat substitute prodn from orientated protein fibres - by oagulation
GENERAL MILLS INC 27.05.70-US-041104
*(17.09.79) *BE-767-686 +A23j-03*

Fibrous food prods. are prepd. by impregnating oriented ibres of edible protein, pref. soya protein, pref. soya proein, with edible serum contg. a heat-coagulatable binder, e.g. egg white, coagulating, by heating the surfaces of bundles of the impregnated fibres, in which the fibres are essentially parallel, and, in a final stage, coagulating by heating and compressing a number of these surface-coagulated bundles.

The prods. simulate with the texture and structure of natural cooked meat. 26.5.71 as 035608 (clg. 27.5.70-US-041104) A23j-3/00 (17.9.79) GENERAL MILLS INC. (4pp) (J4 6006918)

KAOS D13 69446X/37 = J7 9028-464
Agents to improve elasticity, whiteness and texture of paste foods - prepd by mixing a soln of mono-and polyhydric alcohols with a surfactant
KAO SOAP KK 20.01.75-JA-008511
*A97 E17 (17.09.79) *J51086-165 A22c-11 A23l-01/32*

Liq. improving agents for paste foods of fish or animal meat, are prepd. by combining 0.5-30pts. wt. of an aq. soln contg. ≥1 cpd. selected from ethanol, propylene glycol, glycerin, D-sorbitol, D-mannitol and sugars in with 1 pt. wt. of a surfactant composed of 50-100 wt % of fatty acid esters of glycerin and/or lecithin, and of 0-50 w/w % of > 1 cpd. selected from sucrose fatty acid ester, sorbitan fatty acid ester, polyoxyethylenesorbitan fatty acid ester and polyglycerin fatty acid ester. 20.1.75 as 008511, A231 -1/325, A22c-11/00 (17.9.79) KAO SOAP KK (7pp) (J5 1086165)

FUJI- D13 73017X/39 = J7 9028-845
Shea fat with improved tempering properties - obtd. by dissolving the soluble part in lower aliphatic alcohol, cooling, and separating a layer with high oil content
FUJI SEIYU KK 28.00.75-JA-003473
*(19.09.79) *J51091-907 A23g-01 C11b-07*

To provide shea fat type hard butter excellent in tempering characteristics: (1) using lower aliphatic alcohol such as ethanol, propanol, isopropanol, etc. shea fat is sepd. into a soluble portion and insol. portion, (2) soluble portion is sepd. cooled and sepd. into a high oil content layer and a low oil content layer, and (3) the high oil content layer is isolated.

Amt. of lower alcohol used is e.g. 1-20 wt. pts. ethanol of concn. ≥85 wt % (i.e. contg. ≤15 wt % of water) per 1 wt. pt. of shea fat. Cooling temp. for the sepn. into the high oil content layer and low oil content layer is usually 20-60°C. Used in prodn. of chocolate, etc. for cacao oil substitute, etc. 28.00.75 as 003473, C11b-7/00, A23g-1/00 (19.9.79) FUJI SEIYU KK (6pp) (J5 1091907)

BRAT/ D13 17277R/11 = NL-161-342
Low fat whippable cream
BRATLAND A (BRA /) 31.08.65-NO-159544 (09.01.65-NO-156279)
*(17.09.79) *CA-837-020 A23c-13/12*

Fat emulsion is prepd. by emulsifying 12-25 wt. % (based on total emulsion) milk fat or vegetable fat in an aq. phase contg. 8-12 wt. % (based on aq. phase) of non-fatty solids derived from milk. The solids comprise a mixt. of >20 wt. % dried skimmed milk solids and >5 wt. % dried butter milk solids.

Pref. the dried butter milk solid consists of 50-100 wt. % sweet buttermilk powder and 50-0 wt. % sour butter milk powder. The emulsion has a low fat content and can be whipped like real cream. 28.3.74 as 004267 Div. ex 4.1.66 - 000064 (+6.3.65, 31.8.65 - NO - 157083, 159543) (4pp913).

KENC- D13 53999R/30 = NL-161-343
Conditioning freshly roasted coffee
KENCO COFFEE CO (KEN -) 16.10.67-GB-047058
*+Q31 (17.09.79) *GB1200-635 A23f-01/04 +B65b-31/02*

Freshly roasted coffee is conditioned in an enclosed vessel in which the pressure is lowered to below atmospheric pressure but not so low that a significant part of the aromatics evaporate. The coffee is then purged with an inert gas such as nitrogen for a period sufficient to remove undesired gases from the coffee cells. As the gases are released from the coffee, the pressure in the chamber increases so that the process slows down. In order to compensate for this effect, at a pressure between 10 and 25 mm.Hg above the start pressure, the vacuum is again drawn and inert gas is introduced at a rate slower than the evacuation rate until the start pressure is restored. 15.10.68 as 014706 (9pp1370).

CADB D13 16409W/10 = NL-161-344
Milk chocolate prodn. with use of milk powder - having taste of product obtained by the crumb process
CADBURY LTD (CADB-) 17.08.73-GB-038960
*(17.09.79) *DT2439-335 A23g-01*

Milk chocolate is produced by forming an aq. sugar soln. and heating it until it has a b.pt. of 121-165°C, then mixing it with milk powder, and heating again. The mixt. formed is worked with cocoa-contg. ingredients and other opt. additives, to form the chocolate.

Pref. skimmed milk powder and a quantity of milk fat, representing the complementary part of full milk, is mixed with the heated sugar soln. The aq. sugar soln. contains ≤5 wt. % of a reduced sugar. The chocolate produced is of the same quality as that obtd. using full milk. 12.8.74 as 010794(4pp913).

CADB D13 16410W/10 = NL-161-345
Milk chocolate prodn. with use of milk powder - having taste of product obtained by the crumb process
CADBURY LTD (CADB-) 17.08.73-GB-038961
*(17.09.79) *DT2439-336 A23g-01*

Milk chocolate is produced by melting sugar at 187-209°C, and while still hot, mixing in milk powder and then heating again. The mixt. obtd. is then combined with cocoa-contg. components and other opt. additives.

Pref. a mixt. is produced from molten sugar and skimmed milk powder and an amt. of milk fat added which represents, with the skimmed milk powder, full milk. The mixt. is then heated to 115-117°C. The molten sugar can be mixed with the milk powder in the presence of a small amt. of a reducing sugar or cocoa mass. This further improves the flavour of the chocolate. The chocolate obtd. is of the same quality as that using full milk. 12.8.74 as 010795 (4pp913).

IREK- D13 56782V/32 = NL-161-346
Freezing appts. giving individual portions of flavoured ice - with integral heat pasteurisation, freezing and aeration of prod in mould tube
IREKS-ARKADY GMBH 20.03.73-DT-313715
*Q75 (17.09.79) *BE-812-422 +A23g-03*

Ice cream is pasteurised in a dispensing device comprising a storage container and a circulating tube connected to it with a large cross sectional area in the form of a freeze cylinder. A temp. sensor is incorporated in the freeze cylinder. During the pasteurisation process, only the freeze cylinder is heated to 110-120°C so that the contents of the storage container are indirectly heated by near enough dry steam to the pasteurising temp.

The use of dry steam in place of heating elements incorporated in the storage container itself prevents the possibility of burning part of the ice cream with a consequent loss of quality and impairment of the flavour. 20.3.74 as 003782 (10pp1370).

MILE D13 11559Y/07 = NL-161-347
Bland protein enriched grain gluten prepn. - by contact with solvent contg. ethyl acetate and washing with water (NL080277)
MILES LABORATORIES INC 04.08.75-US-601470
*(17.09.79) *DT2634-853 A23j-01/12*

Hydrated gluten is extracted with a solvent for the oil, colourants and flavourants present, using as solvent a mixt. of 70-100 wt. % ethyl acetate, 0-15 wt. % 1-4C aliphatic alcohol(s) and 0-30 wt. % water (all based on total solvent). The extracted gluten is washed with water, the water removed and the gluten dried.

Pref. the extracted gluten is washed with water at >60 °C. The purified grain gluten is used in food prods., esp. for vegetable proteins with fibrous structure or meat substitutes. 3. 5. 76 as 004690 (5pp913).

ZNEM- D13 18203X/10 =NL-161-348
Recovery of casein and whey from skimmed milk - by raising the protein content before acidification to reduce loss of casein
ZUID-NEDER MELKIND 19.08.74-NL-011060
*(17.09.79) *NL7411-060 A23c-21 A23j-01/20*

Method is described for obtaining casein and whey from skimmed milk which is opt. mixed with other fat-free casein contg. liq. milk prods. First the protein content of the skimmed milk or mixt. is increased by $\geq$ 10% to $\geq$ 15 wt. % by evaporation, reverse osmosis and/or ultrafiltration. The casein is pptd. as a curd by adding a casein-free liq. derived from the skimmed milk and adjusted to pH <3 by cation exchange. The casein curd is sepd. from the whey and the casein recovered from the curd.

Pref. the protein content is increased by $\geq$ 20% by ultrafiltration. The retentate of increased protein content, obtd. by ultrafiltration, can be mixed with the skimmed milk permeate from the ultrafiltration after its pH has been lowered by cation exchange. 19. 8. 74 as 011060 (5pp913).

MILE D13 00037Y/01 =NL-161-349
Textured protein concentrate as meat substitute - prepd. by aq. extn. of extruded protein to improve flavour and texture
MILES LABORATORIES INC 15.09.75-US-613090
*(D12) (17.09.79) *BE-845-331 A23j-03*

An extn. process is used to produce an albuminous material with a texture similar to that of meat and virtually neutral taste. The soluble components are extd. from extruded pieces of the albuminous material with an aq. soln. with an acidic pH. To overcome the problem of removing all of the soluble components from a dense albuminous material whilst still producing a material with a texture similar to that of meat, the material is expanded to a density within the range 85-150g/l., measured when the material has a moisture content <8%. The extn. fluid used has a pH in the range 5. 5-6 and a minimum temp. of 65 °C.

The albuminous material is pref. produced from a material contg. 35-80% albumen and 15-50% of water soluble matter and is extruded at 100-165 °C at a pressure of 7-21kg/cm^2. 26. 8. 76 as 009503 (6pp1370).

UNIL D13 06731X/04 =NL-161-350
Flavouring agent for foodstuffs esp. margarine - obtd. by heating prod. with amadori association prods. of 6-deoxyaldohexoses and alpha amino acids
UNILEVER NV 02.07.74-GB-029306
*E13 (17.09.79) *NL7507-862 A23l-01/22*

Aroma of food is improved by adding an Amadori-decomposing prod. which has a m. pt. <170 °C and is prepd. by reacting 6-deoxy-aldohexose with an α-amino-acid at <90 °C. The amt. added is 1-500mg/kg. The food and the mixed Amadori cpd. is then heated at $\geq$ 90 °C for a time sufficient for decompsn. to occur.

Pref. the Amadori prod. is derived from proline, hydroxyproline, serine or α-aminobutyric acid. The treated food is baking or cooking fat, or margarine. 2. 7. 75 as 007862 (8pp913).

UNIL D13 92172R/49 =NL-161-440
Thia alkane thiols as meat aroma food addit- - ive
UNILEVER NV 17.06.69-LU-058893
*E17 (17.09.79) *BE-751-946 A23l-01/23 + C07c-149/10*

Meaty-aroma is imparted or enhanced in a food by adding a thia-alkane thiol of formula $R_1SCH(SH)R_2$ (I) (in which R_1 and R_2 are (m)ethyl). The amt. added is sufficient to give a concn. of 0. 1-1000µg/kg. in food prepd. ready for consumption.

(I) is particularly useful with soups, instant-meats, croquettes, gravy- or beef-tea cubes. General concns. used are 0. 2-100mg/1000kg., for the low concns. the non-volatile Na salt is suitable. Used as a concentrate in a powder for scattering, content is 1-25mg/kg. [illegible] as [illegible] (10pp913).

MILE D13 15025X/09 =NL-161-5
Wet-spun vegetable protein fibres - to give foodstuff with meat-li texture
MILES LABORATORIES INC 25.09.74-US-509287
*F01 (D12) (17.09.79) *BE-833-765 D01f-04/06*

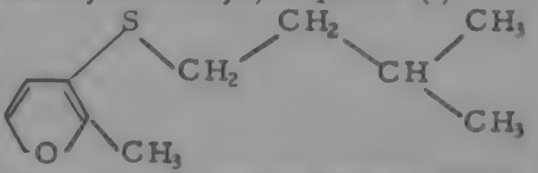
Protein fibres are produced by wet spinning of an aq. suspension at basic pH formed by pptn. at ca. isoelectri pt. of proteinaceous material extracted from oil-free flour obtd. from leguries.

The suspension for spinning is prepd. by (a) forming first suspension of an oil-free flour of leguminous material with a dry wt. protein content of 45-55%, nitrogen solubility index $\geq$ 60%; β-amylase activity of $\geq$ 10g. amylase units/g. and average particle size <14 µm., (b) adjusting the suspension pH to approx. the isoelectric pt. of the protein, (c) sepg. the solids from the liq. part, (d prepg. a second aq. suspension from the sepd. solids, a (e) adjusting the second suspension to pH 12. 0-13. 2.

Pref. the oil-free flour has a nitrogen solubility index of $\geq$ 74%, β-amylase activity of $\geq$ 16 β-amalyase units/g. and average particle size <8µm. Raw purity protein fibr are produced, suitable for making synthetic meat for hur an consumption. 25. 9. 75 as 011301 (7pp913).

INFL ★ D13 74672B/41 ★NL 7903-47
Enhancing the nutty taste of meat flavoured foods - by incorporatin isoamyl (2-methyl-3-furyl) sulphide
INT FLAVORS & FRAGR INC 03.05.79-NL-003474 (19.02.75-U 551150)
E13 (28.09.79) A23l-01/22 C07d-307/64

The nutty taste of meat-flavoured foods is enhanced or in proved by the addn. of 0. 0005-250ppm. of isoamyl(2-methyl-3-furyl)sulphide (I).



(I)

(I) may be used in co junction with other known flavour adjuvants such as 4-methy 5-β-hydroxyethyl-thiazole, 2-methylbutane-thiol, etc.

In an example, 2ppm. (I) was added to a beef broth made from a commercial dry mix with 250ml. water. Th (I) increased the sweet, meaty and liver-like character and provided a nutty taste. The broth had a better, mixed meaty taste than the non-aromatised broth. 3. 5. 79 as 0903474 Div. ex 5. 2. 76 - 001172 (10pp513).

BOEF D13 79403U/52 =SU-639-48
Triglyceride determn by lipase saponifcn - inpresence carboxylesterase and alkyl sulphate
BOEHRINGER MANNHEIM GMBH 19.06.72-DT-229849
*B04 R16 (23.01.79) *DT2229-849 G01n-31/14*

In the determn. of triglycerides (e.g. in food analysis and clinical diagnosis) by enzymatic saponification with lipase from Rhizopus arrhizus and measurement of the glycerin released, the saponification is carried out in th presence of a carboxylesterase (pref. 0. 5-20. 0 mg/ml) and an alkali(ne earth) metal 10-15C alkyl sulphate (pref 0. 001-0. 1% $^{w}/v$), and pref. also serum albumin (esp. 0. 1-2. 0 mg/ml), pref. at a pH of 6-9. The amt. of lipase needed is thus reduced from ca. 1 mg. to 20µg. per test.

The glycerin determination system pref. comprises nicotinamide-adenine dinucleotide (reduced form), adenosine triphosphate, phosphoenol pyruvate, lactate-dehydrogenase, pyruvate-kinase, glycerin-kinase, Mg io and a buffer. Walefeld, A. W., Mellering, H., Gruber, W et al. Bul. 47/25. 12. 78. 13. 12. 73. as 933651 (3p

CHER= ★ D13 74772B/41 ★SU-641-
Appts. for cream butter continuous prodn. - has pressure r sealing butter forming chamber
CHERKASK MECH ENG 01.07.77-SU-501896
P13 (18.01.79) A01j-15/12

The machine consists of case, which has cooling jacket, inlet pipe, revolving paddles set on a shaft and beater blades. On the shaft are also located ring 9 and T-sha blades. Opposite the ring is another ring forming a sea ed chamber

Titarchuk, A. A., Nechuviter, N. F., Shergin, E. N. Bu 2/15. 1. 79. 1. 7. 77. as 501896 (2pp118)

RIN/ ★ D13 74879B/41 ★SU -642-316
urificn. of crude vegetable phospholipid extract. - by washing with cetone sepn., treatment with water and fluidised bed drying, used margarine, bakery and confectionery
BRINKMANIS R A 02.12.76-SU-426094
(15.01.79) A23d-03 C07f-09/10

egetable phospholipid extracts (I) (from e.g. sunflower r soya bean) are purified by the following process (1) ashing with acetone at 15-25°C; (2) filtration; (3) re-uspension in water (3.5-5.5 pts. per pt. of I) at 15-25°C or 1 hr; (4) drying the colloidal prod. in a fluidised bed t 90-110°C.

(I) is recovered in a powdery state in 55-65% yield. It as 89-92% phospholipid content and can be stored for up o 2 years. It is used in the prodn. of margarine and in akery and confectionery prods.
Brinkmanis, R.A., Gozite, I.K., Irgen, A.N. Bul. /15.1.79. 2.12.76. as 426094 (2pp1360)

CPCZ D13 10913W/07 =SU -643-069
Animal feed of heat treated potato pulp - with deposited fat
CENTRALNE LAB PRZEM 23.12.72-PO-159805
*C03 (18.01.79) *DL-109-303 A23k-01/10 A23k-01/14*

The feeds consist of a carrier of potato pulp which has preferably been baked at 130-160°C to a moisture content of 3 ± 1% and which has a golden yellow colour, with deposited animal or vegetable fat in a ratio pulp: fat of 1:1.2. The composition may also contain other known nutrient additives. The process allows fat enrichment of feed with less use of heat energy than in known processes, or using inert and therefore non-nutritious carriers such as silica. Lesnevski, E., Mazurkevich, E., Nerodzik, A. et al. Bul. 2/15.1.79. 19.12.73. as 978349 (2pp)

RAWL/ D13 25829W/15 =SU -643-070
Feed supplement for ruminants - contg. ammoniated protein aldehyde complex to prevent breakdown in rumen
RAWLINGS R M 08.03.74-US-449503
*C03 (18.01.79) *US3875-310 A23k-01/18*

Ruminant feed supplements comprises an oily-seed material contg. naturally dispersed unsatd-lipids within a proteinaceous material which has been reacted with an aldehyde and with ammonia to form an ammoniated protein-aldehyde complex which is insoluble at pH >5 and soluble at pH <4. The feed supplement is not susceptible to breakdown in the numen but is susceptible to breakdown in the abomasum and lower gut. After assimilation the polyunsatd. fat content of the milk and carcass is increased. Rawlings, R.M., Rawlings, F.N. Bul. 2/15.1.79. 6.3.75. as 113201 (3pp)

LERE= ★ D13 75014B/41 ★SU -643-118
Cold storage of potatoes - by reducing temp. to about zero at end of natural resting period, to increase storage life
LENGD REFRIG IND 25.11.76-SU-423871
P12 (27.01.79) A01f-25 A23b-07/04

In order to increase the storage life of potatoes while maintaining their quality, they are stored in a cold room at +3°C for a time corresponding to the natural resting period, after which the temp. is gradually reduced to 0 to 1°C, this being maintained until required for use.

In the example, potatoes were held at +3°C until the middle of February, when the temp. was reduced at 0.3°C/day to -1°C, and the potatoes were held at this temp. until October of the same year. The potatoes exhibited no internal darkening and did not brown rapidly after peeling and cooking. The method also suppressed the development of surface microflora.
Golovkin, N.A., Kuzmin, M.P., Gukalina, T.V. et al. Bul. 3/25.1.79. 25.11.76. as 423871 (2pp1358)

LITO= ★ D13 75017B/41 ★SU -643-141
Butter prodn. from pasteurised cream - includes heating cream, cooling and churning using specified temp. and procedure
LITOVSK DAIRY PROD 01.08.77-SU-512590
(25.01.79) A23c-15/02

Butter is produced by pasteurising cream contg. 35-40% of fat, cooling, intensively mechanically working for 1-3 min. leaving aside for a while, heating and churning.

This method is improved in that the cream is heated to 17-18°C; then kept at this temp. for 8-10 min., cooled to 7-9°C and churned. By this method the consistency and structure of the butter is improved.
Randis, S.-Yu.Yu., Motekaitis, P. - V.P. Kacherauskis D.V. Bul. 3/25.1.79. 1.8.77. as 512590 (2pp70)

LITO= ★ D13 75018B/41 ★SU -643-142
Fermented milk protein-based product mfr. - includes treatment with ion exchanger and fermentation in presence of rennin
LITOVSK DAIRY PROD 27.09.77-SU-528314
(25.01.79) A23c-19/02

Milk proteins based prod. claimed in Parent Patent 242659 is obtd. by normalising a milk material, pasteurising, condensing, coagulating with a lactic flora bacterial culture and rennin, separating the whey and packaging.

The consistency of the prod. is now improved by replacing 20-60% of the Ca content with H_2 after the condensation and before the coagulation steps. The substitn. may be carried out by e.g. treatment with ion-exchange resins.
Ramanauskas, R.I., Urbene, S.K. Bul. 3/25.1.79. 27.9.77. as 528314 Add to 242659 (2pp314)

ORSH= ★ D13 75019B/41 ★SU -643-143
Milk casein washing trough - with agitator blades at adjustable angles to vary throughflow rate and wash time
ORSHANKA MILK COMB (DAIR=) 16.08.77-SU-518474
(25.01.79) A23j-01/20 B01f-07/04

The appts. includes a bath with a shaft carrying blades at an adjustable angle of inclination relative to the shaft, and each with a flanged end. Vertical baffles are mounted in the bath lower part, and two blades in the discharge section have their planes parallel to the shaft axis, while the planes of the other blades form a helical line. The baffles are spaced uniformly over the bath length at a distance equal to the pitch of the line.
Lenkov, N.T., Marchuk, P.S., Voitsekhovskii, V.P. Bul 3/25.1.79. 16.8.77. as 518474 (2pp1358)

SALT= ★ D13 75020B/41 ★SU -643-144
Animal feed salt additive prepn. - forming briquettes from waste dust from table salt-processing plants with addn. of microelements
SALT IND RES INST 21.09.77-SU-534276
C03 (25.01.79) A23k-01/75

The strength of salt the briquettes and the microelement content are increased by using waste dust from the salt processing. One part of the salt dust is granulated with the microelements and other additives; the granules are mixed with the remaining salt dust and pressed. By this method the waste salt dust is utilised.
Rezantsev, I.R., Solotovka, V.P., Maletskii, Yu.M. et al. Bul. 3/25.1.79. 21.9.77. as 534276 (2pp70)

MOAG= ★ D13 75021B/41 ★SU -643-145
Horse radish type plant powder prepn. - includes freezing, comminuting, drying by vacuum sublimation, and introducing seasoning additives, used in food flavouring
MOSC AGRIC INST 13.09.77-SU-528799
(27.01.79) A23l-12/21

Powdered products of plants of the horse radish type are prepd. by cleaning the starting material, cutting it into pieces, drying, comminuting and screening.

The quality of the product is improved and its storage stability is extended by cutting the starting material into 20-30mm. long pieces, freezing to -25 to -35°C, comminuting to 1-3 mm. particles, and drying by sublimation under vacuum (60-130 Pa) at a surface temp. of 60-80°C and inside temp. between -15 and -20°C (to 3.5% moisture) After the screening, seasoning additives and swollen amylopectin phosphate starch may be added. The pref. starting material is sea kale.
Babichenko, L.V., Baranov, B.A. Bul. 3/25.1.79. 13.9.77. as 528799 (2pp70)

DNCH= ★ D13 75025B/41 ★SU -643-166
Liquid-liquid or liquid-solid systems extn. unit - using pulsed selective heating and cooling of solvent streams for uniform temp. control over column height
DNEPR CHEM-TECH 27.12.76-SU-434375
G03 J01 (28.01.79) B01d-11/04 C11b-01/10

The process comprises treatment of solid stage with solvent in a column with variable temperature conditions.

To apply thermal pulsing, some of the solvent is sepd. into two streams, the one being heated and the other cooled to 15-30°C, for alternating return at various points over the column height.

The method can be used in oil extraction of vegetable source material, removal of gelatin from bones etc. for photographic use, in chemical industry etc.

Zadorskii, V.M., Shkurutsii, G.I. Mamontov, V.I. et al Bul. 3/23.1.79. 27.12.76. as 434375 (2pp132)

SWFR D13 68891Y/39 =US 4169-359

Soft ice cream machine with an accurate doser - a short residence time flow mixer and separate freezer

SWEDEN FREEZER MFG CORP (FRIE-) 08.07.76-NL-007558
*+Q75 (02.10.79) *BE-855-012 A23g-09/04 +F25d-17*

Soft ice is produced in appts. which includes a reservoir for ice compsn. powder, and a screw conveyor for transferring dosed amts. of powder to a vertically oriented mixer where the powder is dissolved in water and transferred to a freezing cylinder. The mixer includes a smooth bottomed bowl and a rotor having a smooth disc shaped surface which is spaced from the bowl bottom to form a blending gap.

Rotor has an axial passage to supply the powder and water to the bowl bottom. The mixt. is removed from the bowl through a tangential outlet. The mixer has ≥1 level sensor. 20.6.77 as 808124 (8pp1376)

HAUB/ ★ D13 75101B/41 ★US 4169-409

Vegetable peeling appts. with rotating drum - formed with pockets for carrying vegetables through caustic soln.

HAUBNER J W 05.04.78-US-893702
*(02.10.79) A23n-07/**

A power driven rotating drum has circumferential pockets with open mouths facing outwardly. A tank holds a pool of liq. and submerges a lower portion of the drum, the periphery of the drum moving into and out of the pool on rotation.

The tank is formed with a weir adjacent where the periphery of the drum moves out of the pool. Liq. is circulated through the tank, the liq. level being established by the weir. The circulating liq. produces a current which flows through a pocket and over the weir with the pocket positioned with its mouth opposite the weir.

The appts. is partic. described as a caustic peeler for vegetables. The appts. produces minimal bruising. 5.4.78 as 893702 (6pp295)

MERI D13 12402B/07 =US 4169-854

Compsn. for preparing yoghurt by direct acidification - uses novel thickening mixture contg. acid-stable starch, sodium CMC and xanthan and carob gums

MERCK & CO INC 12.05.77-US-796251
*A97 (A11) (02.10.79) *FR2390-105 A23c-09/10 +A23c-23*

A direct acidified yogurt compsn. is prepd., which before acidulation contains 80-90 wt. pts. of milk, and 1.8-4.5 wt. pts. of thickener blend. The thickener blend comprises 40-80 wt. pts. of starch stable at low pH, 20-45 wt. pts. of sodium carboxymethyl cellulose, 3-8 wt. pts. of xanthan gum and 0.7-3 wt. pts. of locust bean gum.

Pref. the starch in the thickener blend is waxy maize starch or tapioca starch. The compsn. contains <18 wt. pts. of carbohydrate sweetener. After mixing the ingredients, the mixt. is pasteurised, 0.5-1.2 wt. pts. of acidulent are added, and the prod. sheared by homogenisation at 5-45 atmos. to produce a yogurt-like texture.

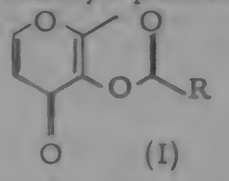
Prod. prepd. does not require bacterial fermentation. The process used is fast, simple and foolproof. 12.5.77 as 796251 (2pp931)

INFL ★ D13 75237B/41 ★US 4169-90

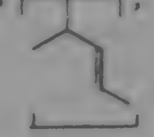
Augmenting or enhancing foodstuff flavour of aroma - by addin maltol-2-methyl-pentenoate cpds.

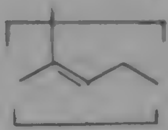
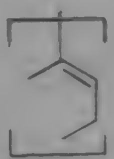
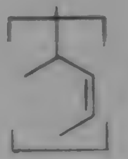
INT FLAVORS & FRAGR INC 05.09.78-US-939728 (08.03.78-US-884382)
E13 (02.10.79) A23l-01/22

The flavour or aroma of a foodstuff is augmented or enhanced by the addn. of 0.01-50 wt. p.p.m. of a maltyl-2-methyl-pentenoate of formula (I).



(I)

In the formula, R is ,

,  or 

Also claimed is a compsn. for augmenting the flavour or aroma of a foodstuff comprising (i) 0.015-10 wt. % of the maltyl-2-methyl-pentenoate, and (ii) a flavouring adjuvant selected from geraniol, ethyl methyl phenyl glycidate, vanillin, ethyl pelargonate, isoamyl acetate, ethyl butyrate, naphthyl ethyl ether, ethyl acetate, isoamyl butyrate, 2-methyl-2-pentenoic acid, 4-allyl-1,2,6-trimethoxybenzene and 4-propenyl-1,2,6-trimethoxybenzene.

US4139541 claimed the maltyl-2-methyl-pentenoate cpd 5.9.78 as 939728 Div ex 4139541 (18pp990)

PROC ★ D13 75238B/41 ★US 4169-901

Cooking fat contg. volatile meat flavouring - stabilised against flavour loss by addn. of non deodorised vegetable oil

PROCTER & GAMBLE CO 01.03.78-US-882481
A97 (02.10.79) A23d-05

A deep-fat frying compsn. which imparts a meaty flavour to food contains (a) 80-98 wt. % base fat having a smoke point >350°F and iodine value 30-150, contg. >95% of edible triglycerides having 16-22C acyl gps.; (b) 0.02-10wt. % volatile artificial meat-like flavour, which is soluble in the base fat to a level of >10% at 70°F; (c) 1-10 wt. % of non-deodorised coconut, palm kernel, cohune, muru muru, or babassu oil or ucuhuba tallow as stabiliser.

The non-deodorised vegetable oil prevents loss of flavouring so the compsn. is effective for long periods of frying. 1.3.78 as 882481 (8pp955)

See Also

D16 DS 2165663
D16 J5 4110364
D17 NL 7900914
D16 DT 2813714
D16 J7 9028467
D23 NL 7902213
D16 J5 4110363
D16 J7 9028472

D14: FOODSTUFF MACHINERY

ROWT ★ D14 73657B/41 ★BE -876-840

Removable filter cover for deep fryer or chip pan - has sealing lip pressed against pan rim by cooking pressure

ROWENTA-WERKE GMBH 29.07.78-DT-U22745
P28 (01.12.79) A47j [illegible]

The cover fits on top of the pan and has a peripheral seal to contact the pan around its top edge. A fume exhaust vent through the cover is fitted with an outflow filter. Fastened on the inside face of the cover is a mounting plate, smaller in area than the cover. The peripheral seal is fitted around the edge of the mounting plate. The mounting plate is also used to contain the filter element which extends through both mounting plate and cover.

The outer circumference of the cover is pref. provided with a lifting ring in the form of an open channel between two annular flanges. The peripheral seal is pref. an annular lip, e.g. of rubber, which extends down from the lid to fit tightly inside the rim of the pan.

Used as a filter cover to prevent splashes and unpleasant fumes escaping from a deep fryer, chip pan etc. The cover is cheaper than a hinged cover as well as being easier to clean. The cover seal remains effective indenitely since gas pressure in the pan presses the annular p seal against the inside of the pan rim. 7.6.79 as 76840 (7pp448)

ALY/ ★ D14 74695B/41 ★SU-635-956
nimal feedstuffs steamer - has drum and hollow shaft with erforated blades rotatable independently to vary mixing onditions
MALYKH M K 13.07.73-SU-949847
(10.12.78) A23n-17

The steamer comprises a cylindrical drum with a discharge port and mounted on a horizontal axial hollow shaft onnected to a steam source and with hollow perforated lades. To increase output, the blades are secured to he shaft and the shaft and drum having independent drives. The blades are pref. staggered along the shaft and the port extends over the whole drum length.

Malykh, M.K. Bul. 45/5.12.78. 13.7.73. as 949847 (2pp 1358)

MOME= ★ D14 74759B/41 ★SU-640-095
Liquid food product freezing - using hollow shaft with inner and outer chambers made of magnetic material
MOSC MEAT DAIRY IND 17.11.76-SU-420989
Q75 (02.02.79) F25c-01/14

The liquid food products freezing unit claimed in Parent Certificate No. 310092 consisted of a frame, cylindrical evaporator and a movable hollow shaft. Now an inner chamber with knife and a rotor are fitted on the hollow shaft. The rotor concentrically envelops the evaporator and carries the outer chamber and the knife. Both chambers cavities are connected to the hollow shaft and the latter is connected to the liquid food product supply system. A toothed rim is fitted on the rotor lower flange, and is connected to the reducer through a gear. The upper flange has centralising rollers. A stationary funnel with water removal pipe is placed under the rotor.

In order to intensify the freezing process and to obtain frozen material of more compact structure, the inner and outer chambers are made of magnetic materials.

Brazhnikov, A.M., Malov, N.D., Efimov, A.V. et al. Bul. 48/30.12.78. 17.11.76. as 420989 Add to 310092 (3pp110)

ARMY= ★ D14 75013B/41 ★SU-643-117
Feedstuffs briquetting press - has pins within annular die at sides of rollers, to prevent mass slipping
ARMYANSK AGRIC MECH 25.04.77-SU-479471
P12 P71 (25.01.79) A01f-15 B30b-11/20

The press comprises an annular die with press channels holding rollers. To prevent the material to be pressed slipping pins are secured to the inner surface of the die on either side of the channels. To improve feed into the pressure zone, radial combs are secured to the roller ends.

Material is fed via a hopper to blades mounted on the roller carrier which direct it to the rollers and pins, the combs also gathering and advancing material.

Markaryan, S.E., Grigoryan, Ts.M., Aristakesyan, A. S. Bul. 3/25.1.79. 25.4.77. as 479471 (2pp1358)

FMCC D14 42245A/24 =US 4169-408
Cooker-cooler for food prods. in cans. jars sachets etc. - taken through pressure chamber in tanks to minimise heat requirement
FMC CORP 25.03.77-US-781405 (10.02.77-US-767277)
*+P28 (02.10.79) *BE-863-697 A47j-27/08*

A continuous pressure cooler has a pressure vessel with inlet and outlet pressure locks, a processing vessel having a liq. tight tub and which is movable through the pressure vessel, the tub being able to receive a heat treatment liq. and any liq. overflow being collected in the bottom of the pressure vessel; a container support in the tub in tunnel shape for supporting containers in parallel rows below the liq. level; and a flow control to cause relative motion of the liq. and the containers.

Food containers can be continuously processed.

25.3.77 as 781405 (22pp1376)

CAMP- ★ D14 75179B/41 ★US 4169-787
Sepg. materials of different specific gravity - by causing heavier constituents to sink below lighter constituents in a soln.
CAMPBELL SOUP CO 12.12.77-US-859433
J01 P41 (02.10.79) B03b-05/40

Materials of different specific gravity are sepd. by dispersing them in a soln. of preselected density and causing a stream of the soln. to impinge upon them below the surface. The stream separates the materials into lighter constituents which float to the surface and heavier constituents which sink. Two conveyors are disposed one above the other in the soln. The upper one collects the lighter constituents and the lower one the heavier constituents.

Used for sepg. edible portions from unedible portions of a material, e.g. raisins from stems, mould and other waste materials. 12.12.77 as 859433 (16pp67)

D15: WATER TREATMENT

PASE ★ D15 73632B/41 ★BE-876-731
Granular bed filter partic. for oil polluted water - has packaged bed material for easy handling and regeneration
PASSAVANTW MICHELBACHER 02.06.78-DT-U16518
J01 (01.10.79) B01d C02b

The granular material is of a density less than that of the liq. to be filtered. The bed occupies the upper part of a filter vessel and the top of the bed is above the surface level of liq. passing through the filter. The granular material of the bed is carried on support surfaces which are impermeable to the granular material but permeable to the liq. being filtered. One support surface is pref. a horizontal, perforated sheet.

The granular material is pref. packed into removable containers which can be filter sacks, baskets, etc., suspensed inside the vessel. The sacks can be of sail cloth with cord buckets on top to serve for suspension in the vessel as well as to facilitate removal and handling.

Used in filtration of water or waste water partic. for the removal of oil pollution.

Packaged bed material is easily removed for regeneration. Loose bed material cannot overspill to be carried away in the filtrate. 1.6.79 as 876731 (11pp448)

DIDI ★ D15 73639B/41 ★BE-876-759
Air inlet pipe for gas distribution in liq. - esp. for waste water and sewage treatment
DIDIER-WERKE AG 05.06.78-DT-U16785
A88 Q62 (01.10.79) C02c F16c

Air inlet pipe is fitted with a connector made from synthetic material and is intended for use in plants involving the distribution of gases in liqs., more esp. for the aeration of waste water and sewage in biological purificn. installations.

In the case of polyethylene air supply pipes, the connectors are fixed in posn. by welding; if, on the other hand the pipes are made from polyvinyl chloride, the connectors are fixed in posn. by means of a suitable adhesive. The connectors are generally in the form of a 'T' but they may also have two or more branches; three or four such branches may be arranged radially to receive a corresp. number of tubular aerators.

By eliminating the need for screwing the pipes a considerably redn. may be effected in the height of the construction; economies can also be made in the machining necessary and in the erecting costs. 5.6.79 as 876759 (8pp519)

HILL/ ★ D15 73672B/41 ★CA 1062-953
Removal of off-flavour from maple syrup - by passing through bed of anion and/or cation exchange resin
HILLS C H 20.01.77-CA-270091
A91 (25.09.79) C13d-03/14

The off-flavour of maple syrup which has been made wholly or partially from 'buddy' sap (i.e. sap collected late in the season when the trees are starting to bud) is removed by passing the syrup, opt. after dilution with water, through an ion exchange resin bed.

The ion exchange resin may be cationic, esp. a sulphonated copolymer of styrene and divinyl benzene, or anionic esp. a polymer of trimethylbenzyl ammonium, or may be a combination of anion and cation resins separated and in series.

The process is much cheaper and simpler than fermentation methods which are the only known alternatives. It allows extension of the sap-collecting season and avoids financial disaster previously caused by contamination of good sap with buddy sap. 20.1.77 as 270091 (8pp909)

WART D15 61533V/35 =DS 2161-763
Vacuum sewage system - with an emptying system using a pair of collecting tanks
WARTSILA AB OY (WART-) 15.12.70-SW-016979
*+Q42 Q56 (04.10.79) *CA-952-789 +E03f-01*

Vacuum sewage system connected to a number of sewage producing devices and maintained under partial vacuum has an emptying device including ≥ 2 sewage collecting tanks with valve controlled inlet and outlets arranged so that one tank is always connected to the vacuum sewage system.

The other tank is connected to a source of ventilating air allowing emptying of that tank. The valves may be controlled in accordance with the sensing of conditions in the tanks. 13.12.74 as 161763 (-pp)

IDEK D15 59107W/36 =DS 2507-002
Ion exchange water purificn - in closed pipe loop with impulse resin regeneration washing and treatment sections
IDEMITSU KOSAN KK 21.02.74-JA-U20108
*(04.10.79) *DT2507-002 C02b-01/72 C02c-05/08*

A closed circuit for an ion exchanger water treatment consists of a crude water treatment section, a resin weighing/transfer section, a regeneration section, a washing section and a re-washing section. Automatically controlled valves on both sides of the crude water treatment and a resin weighing/transfer sections are operated in coordination by a time switch. The top of the washing section includes a cavity the allow for resin expansion during the washing operation, an inclined pipe joins the top to the re-washing section.

This ensures a smooth transfer of the resin from section to section. It has an excellent efficiency and is stable in operation. 19.2.75 as 507002 (4pp39)

BERG- ★ D15 73718B/41 ★DT 2812-507
Selective removal of heavy metal ions from aq. soln. - using liq. organic ion exchanger and emulsifier followed by ultrafiltration
FORSCH BERGHOF GMBH 22.03.78-DT-812507
K05 M25 (04.10.79) C22b-03

The aq. soln. (1) is mixed with an aq. emulsion contg. a liq organic ion exchanger which is insol. in water, plus a conventional emulsifier. After selective bonding of the heavy metal ions on the emulsified ion exchanger, ultrafiltration is used to separate a filtrate free from the heavy metal ions

The emulsifier is pref. a material used in metal-drilling or -drawing oils; and the emulsion pref. contains 20-50 % of liq. in a particle size of 0.01-1 µm. The metal ions are pref. recovered from the emulsion by altering the pH value.

Used for the recovery of valuable and/or toxic metals from mixts. with other substances, and/or the purificn. of waste water obtd. in industrial processes. Metals which can be recovered include U, Cd, Cu, Au or CrO_4^{--} ions. 22.3.78 as 812507(9pp1144).

DAGM- ★ D15 73743B/41 ★DT 2813-5
Dissolving carbon di:oxide in water - by passing through poro body in water using flow-generator driven by carbon di:oxide; us to produce carbonated drinks
DAGMA DEUT AUTOMATE 29.03.78-DT-813583
(04.10.79) C02d-01/02

Flow generating elements driven by CO_2 gas itself are used in a process for impregnating water with CO_2 by pressing CO_2 through the pores of a porous, e.g. ceramic, body in water and setting up a light flow of water at least in CO_2 outlet zone The flow-generator may be a screw-, blade- or turbine-like impeller.

The process can be used to carbonate water, esp. in home, partic. with the addn. of ice blocks. The re-combination of fine bubbles to larger bubbles is prevented. high bubble concn. near the ceramic body is suppressed. 29.3.78 as 813583(7pp200).

PASE ★ D15 73799B/41 ★DT 2852-96
Gravity sepn. e.g. of petrol, oil or fat, and water - in settling tan with coolant circulation
PASSAVANTW MICHELBACHER 22.03.78-NL-003094
(04.10.79) B01d-17/02 C02b-01

Sinks and/or floats, such as petrol, oil or fat, are sepd from hot waste water by gravity in a settling basin where it is retained for sufficiently long periods. Before its introduction in the settling basin and/or during its retention in it, the mixt to be sepd is cooled by heat dissipation to a coolant through 20°C or to a final tem pref under 10°

The result is an improved sepn efficiency and an easier subsequent processing of both water and contaminants. 7.12.78 as 852966(16pp39).

RAMP/ ★ D15 73802B/41 ★DT 2901-777
Solvent-laden waste water purification - using decanter, activated carbon filter and detector cell
RAMPIGNON J 31.03.78-FR-010350
Q42 (04.10.79) C02c-01/18 E03f-05/14

Waste water, laden with solvent, is purified by a combination of the following appliances. A decanter separates the undissolved solvent. A main filter element with micropor ous material absorbs the dissolved solvent. A detector cell for the filter outflow includes an air supply below and a solvent vapour detector above the water level.

In the case of waste water from chemical clothes cleaning establishments which contain perchloroethylene, this system has a high enough efficiency to remove any hazard to health from the waste water. 18.1.79 as 901777(27pp 3

DEUB/ ★ D15 73805B/41 ★DT 2905-251
Domestic waste water heat recovery - in tubular coil surrounding plastic waste water container
DEUBNER F 14.02.78-OE-001039
Q78 (04.10.79) F28d-19

The heat of waste water from domestic appliances is recov-ered by inserting a plastic container with the waste wate into a thin-walled tank, filled with water, in which a tubular coil carries the water to be heated. Brushes, fixed to a central rod, can be used to keep the bottom and side walls free from deposits, which are flushed out through a hose at the top.

This eliminates any possible contamination of the clean water and ensures good heat transfer by keeping the container walls clean.

Specifically an outer tank is filled with neutral water at atmospheric pressure to house a tubular coil for pre-heating cold clean water. An inner conatiner, made of plastic, holds the hot waste water and is covered by the neutral water. 12.2.79 as 905251(10pp39).

DUNK/ ★ D15 73807B/41 ★DT 2907-350
Overflow water relief system - with lake section divided into cells by vertical plastic foil partitions
DUNKERS K R 02.03.78-SW-002392
Q42 (04.10.79) E03f-05/10

An appliance to relieve the inflow of rainfall and run-off of water supply system in surface waters consists of a section, formed in a lake by a network of vertical partitions. A checkerboard pattern of floats is used to suspend foils of plastic, with weigth at the bottom. Alternate openings at the top and bottom allow the water to flow from one cell the next.

This makes use of the volume of the entire section by a adual displacement, independant of level differences. e pressure differential across the partitions from cell cell are reduced to insignificant values. 24.2.79 as 7350(16pp39).

MTI- ★ D15 73909B/41 ★FR 2413-327
omb-type powered cleaner to rake out water screening grill - has ticulated comb arm folded by independent hydraulic cylinder
OMTIP SRL 03.01.78-IT-067001
P43 Q42 (31.08.79) B08b-01 C02c-01/22 E02b-05/08

he comb is fitted at one end of an arm of which the other nd is pivoted to allow the arm to swing in a vertical plane right angles to the comb. The arm is made up of at east two sections of length, hinged together end-to-end fold the arm in the same vertical plane. An independent ydraulic cylinder is employed to fold the arm at the hinge operate the comb.

The arm end pivot is pref. on a chassis above the ater channel. The channel pref. carries another hydraulc cylinder to swing the arm clear of the screen. The hassis is pref. mounted on wheels in tracks extending cross the top of the channel.

The cleaner is robust, simple and reliable. It provides n effective combing action which does not dump screen ubbish back into the channel. 2.1.79 as 000022 (8pp448)

CANT- D15 68565X/36 =GB 1553-906
iquid aeration by passage through restricted orifice - followed by ree fall at greater rate than rate of rise of oxygen bubbles
CANTON TEXTILE MILL 28.07.75-US-599876
*(10.10.79) *US3976-575 B01f-03/04*

Fluid aeration device has a vertically arranged downcomer conduit with its upper end at a level below and downstream of the orifice for receiving free falling fluid while a pressure chamber corrects the lower end of the downcomber conduit and a vertically arranged riser conduit. The upper end of the pressure chamber is below the upper end of the downcomber conduit for discharging aerated fluid. The pressure chamber is otherwise fluid tight.

The arrangement provides a reliable system free of mechanical moving parts which is esp. suitable for water treatment using air or oxygen slightly above atmospheric pressure. 28.7.76 as 031531 (7pp397)

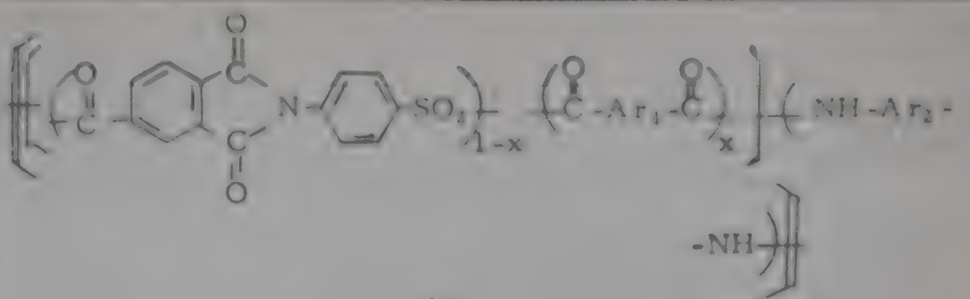
CSIR ★ D15 73996B/41 ★J5 4083-092
Ion exchange resin prodn. for use in chromatography columns - by reacting olefinically unsatd. resin with di:imine and hydrogenating the reaction prod.
COMMONWEALTH SCIENT ORG 28.11.77-AU-002586
A91 (02.07.79) B01j-01 C08f-08/04

A resin contg. an unsatd. olefinic bond is reacted with a diimine in a liq. reaction medium and the reaction prod. is hydrogenated to obtain an ion exchange resin. The diimine may be produced by reaction of a precursor and an oxidising agent. Specifically, the precurser is hydrazine, azo-dicarboxylate, aryl:sulphone-hydrazide, chloroacetyl-hydrazide or hydroxylamine-O-sulphonic acid, Pref. the diimine is produced by reaction of hydroxylamine-O-sulphonic acid and chlorohexanone.

The ion exchange resin is used as an adsorbent in chromatography columns. 28.11.78 as 146150 (7pp15).

ASAG ★ D15 74033B/41 ★J5 4110-181
Semipermeable membrane for reverse osmosis, dialysis etc. - prepd. by moulding mixt. of aromatic polyamideimide sulphonamide, organic solvent and inorganic salt as thin film
ASAHI GLASS KK 17.02.78-JA-016422
A88 J01 (A26) (29.08.79) B01d-13

The membrane having a selective sepn. capability for a liq. mixture is prepd. by moulding into a thin film a mixt. of an aromatic polyamideimidesulphonamide having a repeated unit of formula (I):



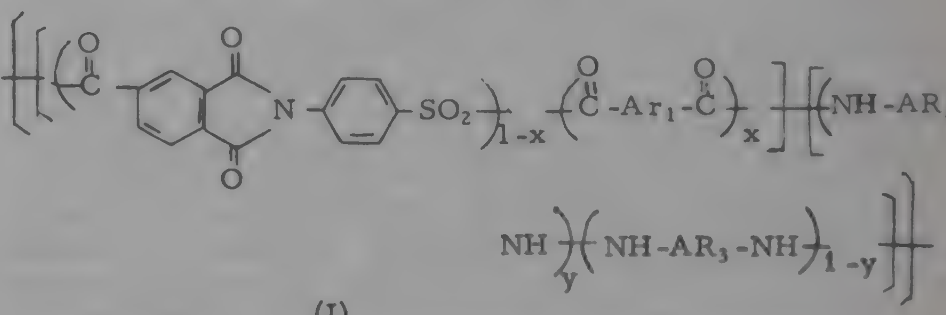
(I)

(where Ar_1 and Ar_2 are divalent aromatic hydrocarbon residual gps. and $0 \leqslant x \leqslant 0.5$), an organic solvent, e.g., DMF, dimethylacetamide, N-methylpyrolidone, hexamethylphosphoramide, tetramethylurea, DMSO, tetramethylsulphone, etc., and an inorganic salt, e.g. LiCl, LiBr, $LiNO_3$, $CaCl_2$, etc..

The membrane has excellent mechanical strength, chemical resistance, and heat resistance, as well as biodegradability, and also is widely applicable to reverse osmosis, dialysis, electrodialysis, ultrafiltration, as well as to the desalination of sea water and saline water and the treatment of waste water. 17.2.78 as 016422 (4pp).

ASAG ★ D15 74034B/41 ★J5 4110-182
✓Selectively permeable membrane for osmosis, dialysis, etc. - is prepd. by moulding an aromatic polyamideimide sulphonamide into a thin film
ASAHI GLASS KK 17.02.78-JA-016423
A88 J01 (A26) (29.08.79) B01d-13

A permeable membrane having a selective sepn. capability for a liq. mixt. is prepd. by moulding into a thin film a mixt. of an aromatic polyamideimidesulphonamide having a repeat unit of formula (I)



(I)

(where Ar_1 and Ar_3 are divalent aromatic hydrocarbon residual gps., Ar_2 is an aromatic hydrocarbon residual gp. contg. the substit. sulphonic acid or its alkali metal salt, $0 \leqslant x \leqslant 0.5$, and $0.01 \leqslant y \leqslant 0.30$), an organic solvent e.g., DMF, dimethylacetamide, N-methylpyrolidone, hexamethylphosphoramide, tetramethylurea, DMSO, tetramethylenesulphone, etc., and an inorganic particles, e.g., LiCl, LiBr, $LiNO_3$, $CaCl_2$, etc..

The selectively permeable membrane is excellent in mechanical strength, chemical resistance, heat resistance, and hygroscopic property, and is used in reverse osmosis, dialysis, electrolytic dialysis, ultrafiltration, as well as the desalination of sea water and saline water and the treatment of waste water. 17.2.78 as 016423 (4pp117).

TOYM ★ D15 74035B/41 ★J5 4110-183
Tubular membrane separator for liquids - comprises hollow semipermeable yarn layer with grooved bars inserted radially forming flow passages for liquids
TOYOBO KK 16.02.78-JA-017186
J01 (29.08.79) B01d-13 B01d-53/22 C02b-01/82

A device for separating a liquid through a hollow yarn assembly disposed in a tubular casing is described. The assembly consists of a hollow yarn columnar layer and resin walls located at both ends of the columnar layer consisting of hollow yarns selectively permeable to the liquid and communicating outside the casing through one or both walls. The device has bars inserted radially into the yarn layer and extending approx. at right angles to the long axis of the layer. The bars are located near both resin walls and made hollow with grooves to form liquid passages.

Flow of liquid is uniform in the yarn layer. Dead space formation and short liq. flow are avoided. 16.2.78 as 017186 (6pp26).

TOKZ ★ D15 74036B/41 ★J5 4110-186
Weakly basic anionic exchange resin prodn. - by polymerising a mixt. of vinyl pyridine, vinyl quinoline and crosslinkable di:vinyl monomer
TOKYO ORG CHEM IND KK 17.02.78-JA-016457
A91 (A14) (29.08.79) B01j-01/08 C08f-226/06

The resin is prepd. by polymerising a mixt. of a vinyl pyridine, e.g. 2-vinyl pyridine, 4-vinyl pyridine, etc., a vinyl quinoline, e.g., 2-vinyl quinoline, 4-vinyl quinoline, 6-vinyl quinoline, 7-vinyl quinoline, 8-vinyl quinoline, etc., and a crosslinkable divinyl monomer, e.g., divinyl-benzene, divinyl toluene, divinyl naphthalene, ethylene glycol diacrylate, ethyleneglycol dimethacrylate, etc., by, e.g. suspension polymerisation, emulsion polymerisation, etc., in the presence of a catalyst, e.g. benzoyl peroxide, t-butyl peroxide, lauroyl peroxide, azoisobutyronitrile, etc., at 50 to 100°C under ordinary pressure.

This resin has high exchange activity. 17.2.78 as 016457 (2pp117).

ASAH ★ D15 74037B/41 ★J5 4110-187
Anion exchange membrane prodn. - by forming reinforced membrane from vinyl cpds., plasticiser and glass fibre woven cloth, then extracting with saline to remove plasticiser
ASAHI CHEMICAL IND KK 20.02.78-JA-017566
A91 (A14) (29.08.79) C08j-05/22

A mixt. consisting of a monovinyl monomer, e.g., styrene, vinyltoluene, ethylvinylbenzene, acrylonitrile, etc., a polyvinyl monomer, e.g., divinyl benzene, trivinylcyclohexane, divinyltoluene, ethyleneglycoldimethacrylate, etc., a vinylimidazole monomer or a vinylpyridine monomer, e.g., N-vinylimidazole, N-vinyl-2-methylimidazole, N-vinyl-2, 4-dimethylimidazole, N-vinyl-2-ethylimidazole, 2-vinylpyridine, 4-vinylpyridine, 2-methyl-5-vinylpyridine, etc., and a plasticiser of an organic polybasic acid ester, e.g., dioctyl sebacate, dioctyl adipate, dibutyl sebacate, dibutyl phthalate, tributyl citrate, tributyl acetylcitrate, etc., is polymerised so that a membrane is formed with the aid of a reinforcing material, e.g., glass fibre-woven cloth, synthetic fibre-woven cloth, etc., and then the plasticiser present in the polymer thus obtd. is extracted by a two-stage method in which first extn. is effected using a 50 - 60°C saline water and then second extn. is effected using a $>$ 90°C saline water, e.g., sea water, etc..

The anionic exchange membrane is free of organic contamination, e.g., humic acid, alkylbenzenesulphonate, etc., 20.2.78 as 017566 (5pp117).

ASAH ★ D15 74157B/41 ★J5 4110-646
Water treatment process - includes supplying salt water to electrolysis cell with cation exchange resin membrane, and using chlorine, sodium hydroxide etc. produced
ASAHI CHEMICAL IND KK 17.02.78-JA-017265
J03 (30.08.79) C02b-01

In the purificn. treatment of water, e.g. waste liquors, effluents and sewage etc. in a water-treating plant, salt water is supplied for electrolysis, to the anode chamber of an electrolysing vessel, partitioned into the anode chamber and cathode chamber with cation exchange membrane to generate NaOH at the cathode chamber and Cl_2 at the anode chamber. 5 - 70% of the NaOH obtd. is used in the form of an aq. soln., and the remaining portion of the NaOH soln. is reacted with a portion of Cl_2 to form an aq. NaClO soln. having pH of 9 - 13. A remaining portion of Cl_2 is used, so that it becomes possible to obtain three components, i.e. Cl_2, NaClO and NaOH in the treatment of water in water-treating stations, without any storage and troubles in transportation etc..

NaOH is employed for adjusting the pH value of the water to be treated, and Cl_2 and/or NaClO is used for sterilisation and decolourisation. This process is most pref. esp. in combination with activated sludge process. 17.2.78 as 017265 (5pp34)

NIPT ★ D15 74158B/41 ★J5 4110-64
Desalting and deodorising purificn. of Stephen's liquor - b introducing carbon di:oxide, adding acid, treating with weakl acidic cation exchange resin, etc.
NIPPON TENSAPSEITO KK 17.02.78-JA-016415
(D17) (30.08.79) A23k-01 C02c-05

Stephen's waste liquor, i.e. waste liquor by-produced in recovering sucrose from treacle in the prodn. of beet sugar, is desalted and deodorised without loss of useful components for use as starting material for fodder and seasoning etc..

Process comprises (a) removing lime component, e.g. by introducing CO_2 to form Ca carbonate; (b) adding an acid, e.g. H_2SO_4, H_3PO_4 and oxalic acid etc. to form insoluble salt, or using acid- or salt-type cation exchange resin; (c) treating the liquor obtd. with weakly acidic cation exchange resin, e.g. Amberlite IRC-75, Amberlite IRC-84 etc. to remove K component while hardly removing simultaneously by adsorption useful aminoacids etc.; and (d) heating the liquor at pH $<$ 7 esp. $<$ 6.5 so that the liquor is effectively deodorised without any loss of other useful components, e.g. vitamins. 17.2.78 as 016415 (4pp34).

ASAH- ★ D15 74159B/41 ★J5 4110-650
Treatment of nitrogen and/or phosphorus-contg. waste water - by adding hydrogen peroxide and calcium hydroxide, latter being in excess
ASAHI ENG KK 20.02.78-JA-017731
(30.08.79) C02c-01/40 C02c-05/04

A nitrogen- and/or phosphorus-contg. waste water, esp. prim. and sec. treated waste waters, is further subjected to advanced purification treatment by adding a mixt. comprising $Ca(OH)_2$ and H_2O_2 to it followed by agitation for 5 min. to one hr. The reaction between H_2O_2 and $Ca(OH)_2$ is equimolecular reaction, but it is pref. to use excess $Ca(OH)_2$ with H_2O_2 to obtain sufficient reaction; pref. amt. of $Ca(OH)_2$ is $>$ 2 times the theoretical amt. The reaction is thus effected under alkaline conditions, H_2O_2 is rapidly decomposed to generate nascent oxygen, and excess $Ca(OH)_2$ serves to increase coagulation settling rate of organic materials. The P components contained in the water are reacted with a portion of CaO resulted by dec. of CaO_2 to form insoluble Ca phosphate and pptd., whilst the N components are decomposed in contact with the nascent O_2 and converted to N_2 and lower mol. components which are settled by coagulation in contact with $Ca(OH)_2$. 20.2.78 as 017731 (3pp34).

NIRA ★ D15 74160B/41 ★J5 4110-651
Treating waste liquor used to develop photosensitive resin - by adding polymerisation catalyst e.g. peroxide or azo cpd. followed by coagulant
UNITIKA KK 20.02.78-JA-018721
A35 E37 G06 R23 (30.08.79) C02c-05/02 G03c-05

The method comprising (a) adding polymerising catalyst, e.g. organic peroxide, inorganic peroxide or azo cpd. etc. to cause polymerisation of polymerisable cpds., and (b) adding a coagulant, esp. salts capable of evolving multivalent metal ion, e.g. $CaCl_2$ and $MgCl_2$ etc. to cause coagulation precipitation of water-soluble polyamide, present so that lower molecular components (additives) contained in the waste liquor are almost completely co-precipitated with the water-soluble polyamide.

Inorganic peroxides are pref. used and include e.g. K persulphate, ammonium persulphate and H_2O_2 etc., and may be used in combination with assisting agent, e.g. $KHSO_3$ and ammonium ferrous sulphate. 20.2.78 as 018721 (3pp34).

FJIE ★ D15 74175B/41 ★J5 4110-895
Determn. of total nitrogen content of waste water - by vaporising water sample, oxidising and determining nitric oxide concn.
FUJI ELECTRIC CO LTD 18.02.78-JA-018028
E36 J04 R16 (30.08.79) G01n-33/18

Total nitrogen content in water contg. nitrogen as NH_4, NO_3^-, NO_2^-, etc. is determined by (1) vaporising the N-contg. water sample, (2) passing the vapour, together with O_2-contg. gas, over oxidising catalyst (pref. Pt catalyst heated at 700 - 900°C) to convert all N cpds. in the sample into NO, and (3) determining NO concn. by an NO-gas analyser.

Method permits continuous monitoring of total nitrogen content in household and/or industrial waste water. 18.2.78 as 018028 (4pp173).

HITG ★ D15 74208B/41 ★J5 4110-975

Fresh water prodn. from sea water or polluted water - by heat exchanging with water heated by solar energy, to effect evaporation

BABCOCK-HITACHI KK 20.02.78-JA-017602

(30.08.79) B01d-03 C02b-01/04

Sea water or polluted water is stored through a pipe in a low temp. evaporator which is maintained in an almost vacuum state. Water in a solar heat adsorber is heated with solar heat to about 60°C and the hot water is stored in a tank. The hot water is circulated from the tank through the evaporator to the solar heat adsorber. The sea water or polluted water in the evaporator is heated with the hot water, so that it is evaporated to produce a fresh water (W).

The solar heat may be used as heating means to save the fuel expense so as to provide an economical fresh water producer. The appts. may be driven without requirement of industrial equipments in places of poor water resources. 20.2.78 as 017602 (2pp35).

MITR ★ D15 74223B/41 ★J5 4110-994

Granular material for waste water treatment - produced by granulating mixt. of oil absorbent inorganic cpd., surfactant and binder, drying and heating

MITSUBISHI RAYON KK 21.02.78-JA-018747

J01 (30.08.79) B01d-15 C02c-05/02

Granular substance is produced by granulating the mixt. consisting of oil absorbent inorganic cpd., surfactant and binder, and drying and heating. Granular substance may be used for cleaning waste water contg. various mineral oils, and animal or vegetable oils in the single or mixed state. The oil may be in emulsified or dispersed state.

In an example to 800g of attapulgite clay and 5g of hexadecyldimethylbenzylammoniumchloride was added 17% alumina sol. corresp. to 200g of alumina and kneaded sufficiently, and then mixt. extruded in cylinders of 1.0 mm dia., 3 - 20mm length by twin-extrusion granulator. The mould were allowed to stand in the gas stream of 110°C for ∼ 15 hrs. and crushed to particles of 0.8 mm dia. ∼ 3 - 7 mm length. 21.2.78 as 018747 (4pp96).

MITR ★ D15 74224B/41 ★J5 4110-995

Granular material for waste water treatment - produced by coating granular substance of oil absorbent inorganic cpd. and binder, with surfactant

MITSUBISHI RAYON KK 21.02.78-JA-018748

J01 (30.08.79) B01d-15 C02c-05/02

Coated granular material is produced by coating granular substance consisting of oil absorbent inorganic cpd. and binder, or further hydrophilic organic cpd. with surfactant. The granular material may be used for cleaning waste water contg. various mineral oils, and animal and vegetable oils in a single or mixed state. Even if solids other than oils are present, treating capacity remains unaltered.

In an example to 800g of attapulgite clay was added 17% alumina sol. corresp. to 200 g of alumina and mixed sufficiently and then extruded in cylinder of 10mm dia., 3 - 20mm length by twin-extrusion granulator. The granules obtd. were allowed to stand in the gas stream of 110°C for ∼13 hrs. and then crushed to particles of ∼0.8 mm dia. and 3 - 7 mm length. Five kilograms of the particles obtd. were immersed in 5 litres of 1.0% aqueous hexadecyldimethylbenzylammoniumchloride soln. for 2 hrs., taken out and water removed by centrifugation. 21.2.78 as 018748 (4pp96).

ASAH ★ D15 74386B/41 ★J5 4112-380

Pure water prodn. with ion exchange resin - using alkaline regenerating soln. passed through anion exchange layer sepd. from ion exchange resin, to avoid silicate deposition

ASAHI CHEMICAL IND KK 22.02.78-JA-018503

(03.09.79) B01j-01/09 C02b-01/76

Prodn. of pure water comprises (1) passing water to be deionised through a layer of ion exchange resin (I) and (2) regenerating (I) by passing 0.1-0.4 N alkali solution through anion exchange resin sepd. from (I)-layer to the direction reverse to the direction for water-deionization

Generally, silicate adsorbed from raw water is desorbed by regeneration of (I), concentrated in waste regenerant and then deposited as ppte. in other known methods. Thus precipitated silicate must be removed from waste regenerant before it is discarded. According to the present method, silicate does not deposit in waste regenerant.

The pref. combinations of (I) are(i) strong acidic cation exchange resin and II-type strong basic anionexchange resin and (ii) strong acidic cation exchange resin, strong basic anion exchange resin and weak basic anion exchange resin. 22.2.78 as 018503 (4pp42).

JAPE ★ D15 74401B/41 ★J5 4112-553

Solidification of sludge into granules - using hydrophilic crosslinking water swellable polymer initially, then recycling the obtd. granules in place of the polymer

JAPAN EXLAN KK 20.02.78-JA-019526

A81 C04 (03.09.79) B01j-01 C02c-03

In solidifying mud-like matters, e.g. sludge from the treatment of organic waste waters, e.g. municipal sewage, etc. or sludge accumulated at the bottom of rivers etc. into granules, a hydrophilic cross-linking polymer having water swellability (the wt. of the polymer after swelling/the wt. of the polymer prior to swelling) 10 - 320 times, is used. The copolymer is e.g. of acrylic acid and divinylbenzene, alkali-hydrolysed acrylonitrile polymer cross-linked with formaldehyde, acrylamide-bearing copolymer cross-linked with formaldehyde, PVA, cross-linked with epichlorhydrin etc..

The improvement comprising previously adding the polymer to the mud-like matter followed by drying to give a granular solidified mixture; thereafter adding the granular solidified mixt. to the mud-like matter in the place of the polymer followed by drying to give further granulated solidified mixt.; and further repeating in succession above procedure. The amt. of polymer used relative to the mud-like matter is greatly reduced, and the process becomes very economical. The final granular solidified mixt. may be reused as fertiliser etc.. 20.2.78 as 019526 (7pp34).

JAPE ★ D15 74402B/41 ★J5 4112-554

Solidification of sludge into granules - using hydrophilic, crosslinked water-swellable polymer

JAPAN EXLAN KK 20.02.78-JA-019527

A81 C04 (03.09.79) B01j-01 C02c-03

Mud-like material e.g. surplus sludge from the activated sludge treatment of organic waste water, e,g. municipal sewage, and industrial waste water etc., Hedoro, i.e. sludge accumulated at the bottom of rivers, and organic and inorganic sludge produced in plants etc., are effectively solidified into granules by adding thereto a hydrophilic cross-linked polymer having water-swellability (wt. of polymer after swelling/wt. of the polymer prior to swelling) of 10 - 320 and the granular size of 40-1,000 μ. The polymer is e.g. divinylbenzene - acrylic acid copolymer (salt), alkali-hydrolysed acrylonitrile polymer crosslinked with formaldehyde, PVA crosslinked with epichlorhydrin, 2-hydroxyethylmethacrylate - ethyleneglycoldimethacrylate copolymer of N, N-dimethylaminoethylmethacrylate - N, N'-methylenebisacrylamide copolymer. It is used in an amt. of ≯1.0 wt.% based on water content of the mud-like matters.

Evaporation of water from the mud-like material is greatly accelerated and generation of bad odour is effectively suppressed. 20.2.78 as 019527 (6pp34).

KANK- ★ D15 74403B/41 ★J5 4112-556

Treating organic effluent using hydrogen peroxide - in presence of iron salt catalyst, adding excess ferrous salt to decompose remaining peroxide and precipitating excess iron as hydroxide

KANKYO ENG KK 22.02.78-JA-018605

(03.09.79) C02c-05

In treatment of organic effluent with H_2O_2 in the presence of iron salt catalyst to decompose by oxidn. organic matters present the improvement comprises adding excess ferrous salt, e.g. $FeSO_4$, $FeCl_2$ etc. to the oxidn.-treated water followed by adjusting its pH to > 6 with alkali, e.g. NaOH, KOH and $Ca(OH)_2$ etc. to decompose, by redn., unreacted H_2O_2, aerating it while maintaining its pH value at > 6 to oxidise an unreacted Fe^{2+} to Fe^{3+} and to ppte. it as $Fe(OH)_3$.

This ensures that remaining H_2O_2 is completely removed within short period without any increase in volume of reaction vessel and H_2O_2-decomposing vessel and further without any accurate control in amt. of H_2O_2 to be injected according to COD Mn of the water to be treated. 22.2.78 as 018605 (3pp34).

EBAI ★ D15 74404B/41 ★J5 4112-557
Dewatering sludge from e.g. water, sewage or night soil treatment - after addn. of hydrated calcium chloride, hydrogen peroxide and pH-adjusting agent
EBARA INFILCO KK 22.02.78-JA-019419
(03.09.79) B01d-21/ C02c-03*

A difficultly filterable sludge composed mainly of metal hydroxides, resulting from the treatment of water, sewage, night soil etc., is effectively dewatered with increased dewatering rate and decreased amt. of dewatered filter cake by adding $\geqslant$10 (10 to 100) wt.% of $CaCl_2.2H_2O$ and $\geqslant$2 (2 to 15) wt.% of H_2O_2 based on dried solids content of the sludge, and subsequently adding a pH-adjusting agent, e.g. HCl, H_2SO_4, NaOH, Na_2CO_3 etc. to adjust the pH to 4 to 6, so that the oxidising strength of the H_2O_2 becomes strong, and characteristics of the filtrate are also improved.

The sepd. liquor (the filtrate) thus obtd. is almost odourless and neutral and hardly contains harmful components, so it can be discharged. In the case of sewage sludge treatment, the sepd. liquor is directly recirculated to a concentrating vessel without recirculating it initially to a settling pond, due to the fact that its COD content is low. 22.2.78 as 019419 (3pp34).

TAOI/ ★ D15 74445B/41 ★J5 4112-786
Appts. for concentrating e.g. brine by evapn. - comprises a perforated hollow column formed from gps. of three spaced bars
TAOI K 24.02.78-JA-020564
J01 (03.09.79) B01d-13

An appts. for thickening a liq., e.g., a brine, by evapn. water using solar energy and wind, comprises a perforated, hollow column formed from gps. of three spaced bars, each bar being constructed from porous material and spanning the two adjacent bars in the lower gp., defining an opening by the two adjacent bars in the lower gp., and the two adjacent vertically aligned bars.

The liq. is delivered to the distribution channel placed on the top of the column where the liq. is filtered and distributed to the top two gps. of bars. As the liq. flows downwardly through the pores of the bars, it becomes thickened by evapn. of water. 24.2.78 as 020564 (7pp).

KOBA- ★ D15 74608B/41 ★J7 9028-157
Adsorption appts. using active carbon powder - has bath for active carbon and liq. to be treated, mixer and conveyor with vacuum unit
KOBAYASHI KK 10.02.75-JA-017296
J01 (14.09.79) B01d-15/02 C02c-05/02

Adsorption appts. comprises a bath for receiving a mixt. of active carbon powder and a liq. to be treated, a means for mixing the liq. with the carbon powder for the adsorption treatment, and an endless conveyor incorporating a vacuum unit to continuously carry a portion of the carbon powder away from the bath to a reactivation chamber. 10.2.75 as 017296, B01d-15/02, C02c-5/02 (14.9.79) KOBAYASHI KK (4pp47) (J5 1092568)

PETL D15 26895T/17 #J7 9028-384
Inhibiting scale - using mixtures of pyrophosphates and dithiophospho acids
PETROLITE CORP 18.12.69-US-886376 (06.02.71-JA-004961)
*E11 H01 (17.09.79) *US3654-170 C07f-09/16 C23f-11/16 + C02b-05.06 C09k-07*

Scale inhibiting compsn. comprising (a) a mixt. of cpds. of formula: $(RX)_2-P(=X)-X-P(=X)-(XR)_2$ and (b) one or more cpds. of formula: $(RO)_2P(=S)SM$ (where R is a radical contg. > 6C atoms or an oxyalkylated radical, X is O or S each of the cpds. (a) contains both O and S, and M is H or a metal) are prepd. by reacting one or more alcohols with P_2S_5 to form o, o-disubstd. dithiophosphoric acid(s) until all the P_2S_5 has dissolved and H_2S evolution has ceased, and continuing the reaction to convert the acid to the pyr -phosphates with the proviso that where M is a metal the acid(s) are neutralised with a salt-forming base or by double decompsn.

Esp. useful in crude oil handling equipment and steam generating appts. 6.2.71 as 004961, C23f-11/16, C02b-5/06, C07f-9/165, C09k-7/00 (17.9.79) PETROLITE CORP (15pp) (J4 7017678)

SANK- D15 73043U/48 = J7 9028-661
Treatment of oil - contg waste water
SANKIN PERLITE SEIZ (SAN -) 29.11.71-JA-096623
*J01 (18.09.79) *J48060-453 + C02c-05/02*

Agents for treatment of oil-contg. waste water consist of metal salts to produce hydroxide ppts. in water 30-94.9. carbonates and bicarbonates of alkali or alkali earth metal 5-50, and powd. pearlite 0.1-65 wt %. The treating agent rapidly removes oils from waste water, which are contai -ed in waste water as emulsion rates. 29.11.71 as 096623 C02c-5/02 (18.9.79) SANKIN PERLITE SEIZO CO. LTD. (3pp) (J4 8060453)

SAOL D15 49930W/30 = J7 9028-665
Treating surface cleaning wastes contg. oils and greases - by adding slaked lime followed by acid pickling waste solns contg. scrap iron
SANYO ELECTRIC KK (SANN) 02.03.73-JA-025362
*M12 (18.09.79) *J49113-459 + B01d-21/* C02c-05/02*

Surface degreasing and rinsing wastes are treated by (1) adding slaked lime followed by acid pickling waste solns. contg. scrap iron to a cond. degreasing waste soln. to cause the pptn. of Fe hydroxide (and give a neutral soln) which together with $Ca(OH)_2$ serves to coagulate the oil and other contaminants present in the waste soln. (emulsion), and (2) adding an appropriate amt. of the neutral soln. from the first step to the rinsing waste solns. from the surface treatment together with a nonionic surfactant to remove contaminants entering the rinsing water. Following reaction the soln. was added to an ordinary waste soln. with oil content 9, COD 11, other contaminants 57 ppm, pH 3.2, transparency 5 cm, at a rate of 50 l. was treated soln./m^3 waste water.

In an example, a waste soln. from degreasing treatment preceeding enameling, with oils 710, COD 1630, other contaminants 120 ppm. pH 14, and transparency < 1 cm, was treated with slaked lime 10 kg/m^3 waste soln. acid waste soln. 0.33 m^3, contg. scrap iron ∽4.2 kg was then added. A 0.05% aq. soln. of a nonionic flocculant (Sanfurokku AH-200 P 5 l. was then added to give a treated waste soln. with oil content 0.8, COD 13, other contaminants 0.3 ppm. pH 7.2, and transparency 30 cm. 2.3.73 as 025362, C02c-5/02, B01d-21/01 (18.9.79) SANYO ELEC. (4pp) (J4 9113459)

ASAH D15 85196W/52 = J7 9028-666
Treatment of waste water from viscose rayon plants - using calcium chloride to flocculate org materials
ASAHI CHEMICAL IND KK 22.03.73-JA-031804
*A11 F01 (18.09.79) *J49120-457 + C02c-05/02*

When viscose rayon waste waters are treated, hemicellulose-contg. NaOH waste water from the dialysis process was mixed with oil-washing waste water from the finishing process and $CaCl_2$ was added to flocculate the org. materials.

In an example, an equal amt. of alkali waste water contg NaOH 25, hemicellulose 18 g/l. and BOD 12000 ppm, discharged from the dialyser was mixed with oil-washing waste water contg. organic materials 3.5 g/l and BOD 5000 ppm and to this was added 30g $CaCl_2$/l. The mixt. was stirred at 20° for 2 min. and filtered. The filtrate contained < 700 ppm. BOD. 22.3.73 as 031804, C02c-5/02 (18.9.79) ASAHI CHEM. IND. KK (2pp) (J4 9120457)

NIRI- D15 15632W/09 = J7 9028-668
Two-stage electrolytic purification of waste water - uses a first acid and a second alkaline stage with different cathode materials
NIPPON RISUI KAGAKU 06.07.73-JA-076887
*(18.09.79) *SW7408-683 C02b-01/82 C02c-05/12*

Electrolytic purificn. of waste water in two stages, in which in the first stage, electrolysis is carried out with the water for purificn. adjusted to below pH 7, and an iron anode and an aluminium (alloy) cathode is used, and in the second stage, electrolysis is carried out with the waste adjusted to above pH 7, using an iron anode and a carbon cathode. 6.7.73 as 076887, C02c-5/12, C02b-1/82, (18.9.79) NIPPON RISUI KAGAKU KENK (4pp)(J5 0030351)

GENM D15 62841V/35 =J7 9028-669
Clarification of water contg. org. cpds - by addn. of anionic derivs of galactomannans at low temp., after treatment with aluminium or ferric ions
GENERAL MILLS CHEM 02.01.73-US-320409
*A91 (18.09.79) *US3830-736 B01d-21/* +C02b-01/20 C02c-05/02*

0.25-100.0 ppm of the carboxy 2-4C alkyl ether or the carboxy 2-4C alkylated hydroxy 2-8C alkyl ether of galacto-mannan gum is added to H_2O that has been treated with > 1 ppm Al or Fe (III) ions to neutralise the zeta potential of the org. molecules, at 0-12°C. The settling rate of the floc. is not inhibited at the low temp. unlike polyacrylamide based anionic polymers. 7.9.73 as 100402 (clg. 2.1.73-US-320409) C02c-5/02, B01d-21/01, C02b-1/20 (18.9.79) GENERAL MILLS CHEMICALS (10pp) (J4 9100848)

TEXC D15 04845U/04 #J7 9028-843
Treating refinery sludges - by two-stage extraction to recover wax and oil
TEXACO INC 06.11.70-US-087452 (24.11.72-JA-117282)
*H05 (19.09.79) *US3711-400 C10g-43/12*

Refinery sludge is deoiled, dewatered and dewaxed by (1) mixing the sludge with a light aliphatic hydrocarbon (pref. a 3-5C alkane), sepg. the mixt. into water of reduced COD, a water-waxy solids slurry and an oil-aliphatic hydrocarbon phase, heating the latter phase to above the critical temp. of the aliphatic hydrocarbon under a pressure to keep the aliphatic hydrocarbon in a dense phase so splitting the oil-aliphatic hydrocarbon phase into aliphatic hydrocarbon and oil portions which are recovered, and (2) sepg. water from the water-waxy solids slurry, mixing the waxy solids with a light aromatic hydrocarbon (e.g. benzene or cumene), sepg. the resultant mixt. into wax-free solids and a wax-aromatic hydrocarbon phase and recovering wax from the latter phase.

The wax-free solids may be used as land fill, the recovered wax can be decolourised, and the oil recovered in step (1) is clean and suitable for feeding to a cat cracker or for blending with fuel oil. 24.11.72 as 117282, C10g-43/12 (19.9.79) TEXACO INC. (6pp) (J4 9078703)

DEVN D15 45426W/27 =NL-161-365
Sepn. of oil from water - using a settler and filters in series to prevent oil contaminating the treated water
MACH DEVENTER BV (GEUR-) 14.12.73-NL-017147
*J01 (17.09.79) *NL7317-147 B01d-17/02 B01d-21 B01d-35/12*

A sepn. vessel for lighter and heavier liquids such as oil and water consists of a vertical chamber divided into three zones, a central sepn. zone, an upper collection and discharge zone for the lighter fluid and a lower collection and discharge zone for the heavier fluid. The lower zone incorporates a bank of filters placed in series, the filter material permitting the passage of the heavier fluid alone. At the top of the compartment between each filter layer, there is channel which leads back into the sepn. zone.

The filter bank is so assembled that the channels from each compartment can be selectively isolated by means of an isolating mechanism which enables the individual filter layers to be washed with a reverse flow of clean water introduced via the discharge port in the collection chamber.

This enables the sepn. vessel to remain in operation for long periods without the necessity of periodically shutting down the unit to replace the filter banks. 14.12.73 as 017417 (8pp1370).

FRNG D15 40387V/22 =NL-161-560
Immersed aerating device - for waste water and sewage consisting of motor driven paddle wheel connected to air conduit
FRINGS H FA 01.09.72-DT-243161
*+Q66 (17.09.79) *FR2197-632 F16k-24/06*

An aerator for liquids comprises a reservoir filled with liquid, a motor driven paddle mounted on a vertical shaft equipped with an air suction connection connected to the hollow core of the paddle and a stator consisting of a series of vertical guide blades mounted between two fixed horizontal circular plates one above and one below the paddle. The paddle is mounted near the floor of the reservoir and may be driven by a submerged motor. To minimise the use of energy whilst maximising the aeration effect, the dia. of the stator is 2 to 5 times as large as that of the rotor. For a 3m. depth of water, this measure enables a 200mm. dia. rotor to handle 10m^3 of air using 0.52 kWh. of energy with a 610mm. dia. stator as opposed to a consumption of 0.64 kWh. of energy for the same parameters with a 310mm. dia. stator. 10.3.77 as 002635 Div. ex 23.7.73 - 010255 (5pp1370).

MOEN= ★ D15 74720B/41 ★SU-639-817
Drinking water mineralisation - by contacting with saturated reagent solution contg. solid phase, used in spaceships etc.
MOSC ENG-CONS INST 10.03.76-SU-331159
(30.12.78) C02b-07

The process used in closed ecological systems, e.g. spaceship etc. comprises contacting, through an osmotic membrane, with a satd. soln. of chemical reagent.

For continuity and high product quality, the contacting saturated soln. contains solid phase.

The mineraliser is filled with solid phase of $NaHCO_3$ salt in equilibrium with its saturated soln. The salt volume of 53ml. corresponds to 90g of salt. Feed of distillate, and the concentration difference between the two sides of the membrane, result in entry of water and displacement of soln. the volume of which is measured in the usual way. Thus on dosing for 1 and 24 hours at a soln. displacement of 0.5ml/h., the displaced soln. concentration is 92g/l in both cases.
Smagin, V.N., Medvedev, I.N., Chukhin, V.A. et al. Bul. 48/30.12.78. 10.3.76. as 331159 (2pp132)

MOGU ★ D15 74721B/41 ★SU-639-819
Purification of effluent or ballast water from petroleum products - using flotation cell with push-plates tangentially fixed to drum, revolved by reactive force of distributor jets
MOSCOW GUBKIN PETROCHEM 04.06.76-SU-368322
H03 P41 (30.12.78) B03d-01/14 C02c-05

Simplified construction of the flotation cell for purifying the effluent or ballast water free of petroleum products, and improved reliability of its operation, are ensured. The cell contains drum mounted at the upper part of the shaft which, at its bottom, contains distributor of raw water contg. jets supplied through the channel in the shaft Reaction force of the jets revolves the shaft together with the drum to which are tangentially fixed push-plates inclined at some angle to the radius. The push-plates scoop the floating inclusions and direct them to discharge troughs.
Roev, G.A. and Yufin, V.A. Bul. 48/30.12.78. 4.6.76. as 368322 (3pp135)

HYDR= ★ D15 74914B/41 ★SU-642-352
Rock-cutting fluid contg. starch prods. - removed by co-addition of amylolytic enzymes in water
HYDROTECH MELIOR (STAR=) 22.07.75-SU-165709
A97 H01 (A11 D16) (18.01.79) C09k-07

Wash water used in hole cutting contains starch products. The latter are destroyed more readily by adding amylolytic enzymes.

The wash water comprises (wt.%): starch products 3-5 amylolytic enzymes 0.01-0.1, remainder - water.
Belyakov, V.M., Koptelova, E.K., Rogovoi, V.K. et al. Bul. 2/15.1.79. 22.7.75. as 165709 (2pp835)

ASGE= ★ D15 75026B/41 ★SU-643-167
Degasser for liquids e.g. aq. waste - using constant liquid-air ratio in baffle plate system having hydraulic trap
AS USSR GEOCHEM 05.08.77-SU-517253
J01 (28.01.79) B01d-19

The degasser comprises a vertical casing, and an ejector with liquid and gas feed and discharge pipes.

To improve performance, it incorporates a baffle plate under the ejector, and a cylindrical sepg. partition coaxial with the casing.

Khristianov, V.K., Korchuganov, B.N., Surkov, Yu.A. Bul. 3/25.1.79. 5.8.77. as 517253 (3pp132)

BELG= ★ D15 75028B/41 ★SU -643-169
Sludge water clarifier operation - with controlled flow and discharge based on set of concentric conical sedimentation chambers
BELGOROD MEKHANOBRC 01.08.77-SU-518310
(28.01.79) B01d-21/02 C02c-01/26

The clarifier comprises a set of concentric upturned-cone sedimentation elements, a top discharge channel, and charging and discharging pipes. To increase performance, by eliminating mixing of the liquids, the base of each uneven cone, counting from the centre, is set at 1/2-1/3 times the discharge channel height, and its apex incorporates a discharge pipe, while the base of each even cone is level with the channel, and its base has an outlet cylindrical-conical cap.

Bobylev, A.V. Bul. 3/25.1.79. 1.8.77. as 518310 (2pp 132)

WATE= ★ D15 75029B/41 ★SU -643-170
Drainage filter for surface water - has filtration surface increased by standard large area, fine cleaning partition assembly
WATER POLY MAT 01.04.77-SU-472309
J01 (28.01.79) B01d-23/16

The filter comprises a coarse-cleaning element made as a cylindrical casing with gravel packing and water openings, a drain, and a fine-cleaning element in the coarse-cleaning element and at the end of the drain. To increase throughput in the fine-cleaning element, this is made as a cross-piece with filter partitions.

The dirty water reaching the fine-cleaning element is drawn through the partitions into the drain. This technique facilitates installation of partitions of a single standard size with a large total filtration area, thus also simplifying the production of standard filter partitions. When the holes in the cross-piece are twice the diameter of the drain hole, the total filter surface is 20 times the cross-sectional area of the drain branch.

Gailitis, I.Yu., Yuske, A.Kh., Kalitsiems, V.A. et al. Bul. 3/25.1.79. 4.4.77. as 472309 (2pp132)

PERM- ★ D15 75180B/41 ★US 4169-789
Sea water purification by reverse osmosis - after mechanical prefilter with flushing by purified water after use
PERMO SA 01.06.78-US-911959
(02.10.79) B01d-13 C02b-01/82

Potable water is recovered from seawater by initially passing it through a mechanical filter pref. comprising 4 stages having reducing pore size. Filtered water is then pumped at high pressure to a reverse osmosis membrane which removes dissolved salts to form a potable water product which is stored in a tank. A reject flow is taken from the upstream side of the membrane and is released at a controlled back-pressure to regulate the conversion efficiency of the membrane to a value which prevents the formation on it of sulphates or carbonates.

When the plant is to be shut-down the entire system is flushed and filled with potable water from the reservoir to retard the growth of marine microorganisms in the system.

Appts. produces potable water for use on an off-shore oil rig. Contamination with impurities or microorganisms is retarded. 1.6.78 as 911959 (11pp295)

WAST- ★ D15 75182B/41 ★US 4169-791
Solar evaporation for concentration of liquid waste - with waste stored in lagoon having movable covers
WASTE MANAGEMENT 06.09.78-US-939933
(02.10.79) B01d-01/24

An appts. for the volume reduction of aqs. waste by solar evaporation comprises a lagoon holding the waste. At least one cover is provided for the lagoon, this cover being movable with respect to the surface of the lagoon.

Waste from the lagoon is sprayed onto the upper surface of the cover where it is further exposed to the atmosphere for additional solar evaporation. Pref. the cover is formed as several sections which together cover the entire area of the lagoon.

The appts. is used to concentrate pollutants in the waste. The cover is movable so that during periods of precipitation the waste is not further diluted. When the covers are moved back from the surface of the lagoon their surfaces are used as further evaporation areas. 6.9.78 as 939933 (7pp295)

TOLO- ★ D15 75184B/41 ★US 4169-79
Swimming pool filter drain - has collector tubes locked int manifold sockets by spring fingers
TOLO INC 11.07.77-US-814176
A88 J01 Q46 (02.10.79) B01d-29/08 E04h-03/20

The drain for filtered water from circularly spaced points in particulate filtering medium in a swimming pool filter, comprises collector tubes projecting radially from socket in the wall of the manifold open to a drain port. Each tube has a longitudinally extended series of coplanar apertures normally opening downwards.

The tubes are individually locked into their sockets by spring fingers formed segmentally on the socket end of a tube to form an outward radial detent, with finger-receiving recesses to hold the detent against angular and longitudinal movement. The tubes are pref. of thermoplastics. 11.7.77 as 814176 (6pp1358)

AERO- ★ D15 75224B/41 ★US 4169-873
Fluid circulator for sewage treatment - with large bubble generator at base of vertical conduit
AERO-HYDRAULICS 13.12.76-US-749670
J02 (02.10.79) B01f-03/04

A circulator comprises a large bubble generator in the lower part of a vertical conduit with bottom inlet and top outlet. The generator has a gas accumulator tank with a bottom opening, and an inverted siphon having a vertical discharge leg within the tank and registering with a top wall opening, terminating in an upper bubble discharge opening directed into the conduit.

A lower leg extends from the discharge leg outwardly through the tank wall, then extending upwardly and inwardly into registry with an opening adjacent the peripheral wall top, with gas delivered into the tank. 13.12.76 as 749670 (4pp1358)

ETHE/ ★ D15 75228B/41 ★US 4169-878
Aerobic composter for sewage and kitchen waste - with inclined helical ramp for gravity transport of waste matter
ETHERINGTON A B 10.01.78-US-868287
(02.10.79) C05f-09/02

A waste disposal unit comprises a non-rotatable vertical cylinder having a waste inlet at the top. From the inlet a ramp extends downwardly to the bottom of the cylinder in a helical pattern. The slope of the ramp is sufficient such that the waste moves down it solely by the action of gravity. A continuous flow of fresh oxygen-contg. air is admitted to the cylinder so that the waste material is composted by the time it reaches the bottom of the cylinder. Gaseous products are discharged from the cylinder. Pref. the ramp has an inclination of 20-40°.

The appts. is used for the decompsn. of human and organic kitchen wastes. The appts. does not use motors or chemicals to assist in the decomposition. 10.1.78 as 868287 (7pp295)

ABET- D15 66325B/37 =WP 7900-719
Large scale mfr. of methane from organic waste e.g. manure - by continuous mechanically handled contacting with anaerobic microorganisms
A-BETONG AB (THOM/) 06.03.78-SW-002501
*E17 (04.10.79) *BE-874-620 C02c-01/14 + C12d-03/10*
D/S: N(DT, DK, GB, JA, US)

Prodn. of methane from organic material by contacting with a culture of aerobic micro-organisms in a closed treatment chamber, comprises passing substrate through a pretreatment chamber in which it is heated to at least the temp. at which it is to be processed in the main treatment chamber. The temp. in the pretreatment chamber is pref. sufficient to pasteurise the substrate e.g. 55-75°C.

The substrate is transferred to the main treatment chamber where it is mixed with the culture of microorganisms. The temp. in the main treatment chamber is pref. 50-60°C. Mechanical agitation is pref. provided for material in both stages. The mechanical agitators and the transfer conveying system between treatment tanks pref. take the form of pumps. One pump can serve both to agitate in the pretreatment chamber or to transfer material to the main chamber. The other pump then has dual duties of mixing in the treatment chamber or discharging spent material.

Process is suitable for large scale mfr. of methane from organic waste, esp. manure or compost.
28.2.79 as SW0041 (23pp448)
(E) ISR: US1930457; US3959125; SW142635; SW397955; US3383309; SW395441.

SeeAlso

D13 BE 876788 D22 J7 9028447 D22 J7 9028449

D16 : FERMENTATION INDUSTRY

MATS/ D16 23415T/15 =DS 2165-663
Medicinal dry baths - using fermenting spent coffee grounds
MATSUI H (MAT /) 31.12.70-JA-125709
*B04 (D13) (04.10.79) *NL7118-183 +A61k-35/78*

Prepn. of dry bath compsn. comprises mixing coffee ingredients, (90-10 wt. %), with defatted soya bean, cotton wool seed, rice husks, bagasse, maize heads and/or pineapple stalks, in the form of small pieces, particles or powder, (10-90 wt. %), with a water content 30-50 wt% adjusted to pH 5, followed by the introduction of Saccharomyces ellipsoideus.

The baths are used for dry heat treatment with elderly patients. 30. 12. 71 as 165663 (10pp047)

FARB D16 62009U/42 =DS 2215-509
Bonding proteins esp enzymes - with cross-linked swellable copolymers contg cyclic dicarboxylic acid anhydride gps
BAYER AG 30.03.72-DT-215509
*A14 B04 (A96 A97) (04.10.79) *DT2215-509 +C07g-07 C08f-220/20*

Cross-linked copolymers comprising (A)α, β-unsaturated monoeolefinic 4-9C dicarboxylic anhydride, (0. 1-50 wt. %); and (B) di- and/or poly(meth)acrylic acid esters or polyols, (99. 9-50 wt. %), are new. These polymers have surface area 0. 1-500 m^2/g and active volume 1. 4-30 cm^3/g, with 0. 02-10 mmoles of acid per g after hydrolysis.

Prepn. of these polymers comprises pptn. or drop polymerisation in an inert solvent system at 20-200°, in the presence of a free radical catalyst, using A, (0. 1-70 wt. %), and B, (99. 9-30 wt. %). The prods. are used for the immobilisation of proteins, enzymes (esp. penicillinase), and inhibitors which are inert to the anhydride group. 30. 3. 72 as 215509 (7pp047)

ROUS D16 50168U/35 =DS 2307-051
Alpha- and beta-glycoproteins of bacterial origin - - antiinflammatories and stimulators of defence mechanisms
ROUSSEL UCLAF 15.02.72-FR-005016
*B04 (04.10.79) *BE-795-417 A61k-37/02 C07g-07*

Purification of linear α- and β-glycoproteins from bacterial cells, esp. Pneumococci, Streptococci, Neisseria, Micrococci, Staphylococi, Klebsiella pneumoniae and Haemophilus influenzae or their mixts. possibly with similar species also present, comprises dialysis of the aq. glycoproteins using calibrated membrane(s) to separate inactive or only slightly active fractions, the active fraction is then chromatographed on a hydrophilic polymer gel and the non-bonded component is isolated.

The prods. are used in antiinflammatory pharmaceutical prepns. for parenteral, perligual, oral, rectal, permucosic or local application. 13. 2. 73 as 307051 Add to 2024586 (5pp047)

INLI D16 85951V/50 =DS 2425-746
Large scale, safe cell propagation - circulating substrate and regulating gas supply
INSTRUMENTATION LAB INC 31.05.73-US-365535
*B04 (04.10.79) *DT2425-746 C12k-01/10*

A device for the propagation of cells, esp. of animal origin, includes an incubator chamber with a number of carriers for cell cultures. A pH sensor for the nutrient medium controls the CO_2 feed to the chamber which is measured by another sensor. A coupling joins the chambers to the inlet and outlet pipes of a nutrient medium distributor. A valve in a bypass between inlet and outlet is actuated by the CO_2 sensor to replace part of the discharge medium by a fresh supply. 28. 5. 74 as 425746 (9pp39)

MCDO D16 79331Y/45 =DS 2717-982
Medium to detect Proteus microorganisms in urine - comprises nutrients, urea, buffer to avoid detecting klebsiella, antibiotics and colour-changing indicator
MCDOWELL CO (MCDD) 03.05.76-US-682657
*B04 R16 (04.10.79) *BE-854-163 C12k-01/06*

Culture medium for the determination of Proteus contains a nutrent and urea, and additionally (a) 0. 79-0. 81 g/l KH_2PO_4 and 1. 19-1. 21 g/l K_2HPO_4, (b) 4850-5150 ng/l each of coliotine and erythromycin, and (c) pH indicator soln. which changes colour in the alkaline range. Pref. the indicator is bronothymol blue.

Medium is used as a rapid test (12-18 hrs. compared with 36-48 hrs) for Proteun in urine and faces(absence being indicative of infections of the urinary tract). 21. 4. 77 as 717982 (3pp913)

KOLM/ ★ D16 73706B/41 ★DT 2812-239
Nutrient media filling in petri discs - by mechanised disc cover lifting and controlled pouring valve
KOLMEL K 21.03.78-DT-812239
Q31 (04.10.79) B65b-03 C12k-01

In a device for the filling of Petri discs with nutrient media, a bracket on a moving plate causes the disc cover to slide up and leave a slot between cover and bottom glass. The discharge opening of the pouring valve enters into this.

The solenoid valve which connects up the storage vessel is controlled by a time switch. Two pairs of contact springs ensure that the filling operation takes place only when a partly opened Petri disc is present.

This replaces the manual operation by an automatic germ-free process. 21. 3. 78 as 812239(9pp39).

MILK= ★ D16 73753B/41 ★DT 2813-714
Lactic acid bacteria mass prepn. - by cultivation, cooling with protective medium contg. carbohydrate and buffer salt, and drying
MILK IND RES INST (MEAT=) 30.03.78-DT-813714
(D12 D13) (04.10.79) A22c-11 A23c-13/12 A23c-19

Dry lactic acid bacteria mass is prepd. by (a) cultivating the bacteria on a milk-based nutrient medium, with the addn. of buffer salt, trace elements, sources for N, mineral salts and vitamins ; (b) cooling the culture liquor, (A), obtd to 6-10°C; (c) mixing (A) with a carbohydrate- and buffer salt-contg. protective medium in (A): (B) ratio 1-0. 1 to 1:4; (d) saturating the mixt. with 20-50 vol% sterile air to form a foam-like suspension and (e) drying.

The prod. is used in meat- and milk industry, in the prodn. of lactic acid prods., e.g. curd, sour cream and. of semi-dry raw sausages. Bacterial cell activity and cell count are increased. Prods. have a high antibiotic activity against undesired microflora. 30. 2. 78 as 813714 (27pp200).

THOM/ ★ D16 73768B/41 ★DT 2813-867
Hops feed for brewing copper - with program controlled descending and ascending endless conveyor
THOMASCHKI C 31.03.78-DT-813867
(04.10.79) C12c-07/04

Hops are introduced into a brewing copper in containers, attached to an endless conveyor. A descending and ascending loop of the conveyor dips into the wort. A proximity switch cuts off the conveyor drive before the leading container reaches the fluid level. When the hops are washed out, the spent containers are moved on and flushed out while new hops are introduced.

This contributes to the automation of the brewing process and ensures a controlled dissolution of the hops. The dangerous manual removal operations are eliminated. 31.3.78 as 813867(27pp39).

SULZ ★ D16 73792B/41 ★DT 2815-199
Activated sludge preservation - by flushing with gas containing carbon dioxide and less oxygen than air (OE 15.7.79)
GEBRUDER SULZER AG 03.04.78-CH-003530
(04.10.79) C02c-01/06

Activated sludge can be preserved for later re-use in biological sewage treatment stages by storing it and by rinsing it during storage with a gas. This gas contains carbon dioxide (at least 10%) and less oxygen (max. 10 vol.%)than is contained in air, and the residue consists of rare gases and/or nitrogen up to 90 vol %.

This saves having to add any nutrient to keep the biomass active. The waste gases of the biological sewage plant itself can be used as rinsing medium so that no costs arise for the purchase of CO_2. 7.4.78 as 815199(11pp39).

ASAH ★ D16 73829B/41 ★DT 2911-033
Membrane potential of vesicles determn. - from change of lipophilic ion concn.
ASAHI KASEI KOGYO 05.03.79-JA-025251 (23.03.78-JA-032338)
J04 R16 R27 (04.10.79) C12k-01/04 G01n-13 G01n-27/40 G01n-33/16 G06f-15/46

The membrane potentials of vesicles are measured by dipping an electrode, which responds selectively to lipophilic ions are dissolved and vesicles are suspended. The rate of change of the lipophilic ion concentration, caused by the presence of the vesicles, in measured as a change of the electrode potential and its rate in unit time indicates the membrane potential of the vesicles.

A large number of samples can be tested by this method in a short time. The method is equally suitable for vesicles with a low membrane potential. 21.3.79 as 911033 (56pp39).

TOXN ★ D16 73838B/41 ★DT 2911-481
Reagent for assay of pyruvate - contains pyruvate oxidase and pref. co-factors, phosphate and metal salt activator
TOYO JOZO KK 14.07.78-JA-086350 (25.03.78-JA-034687)
B04 J04 R16 (04.10.79) C07g-07/02 C12d-13/10 G01n-31/14 G01n-33/16

Analytical reagent is a reaction system contg. pyruvate oxidase (I). Pref. it also contains flavine-adenine-dinucleotide (FAD), thiamine pyrophosphate (II), phosphate, and a salt providing Ca, Co, Mg and/or Mn ions.

Opt. the reagent also contains an indicator for H_2O_2, esp. a peroxidase, 4-aminoantipyrine and phenol or N, N-dimethylaniline or homovanillic acid. Pref. (I) is derived from a Pediococcus, Streptococcus or Aerococcus species, specifically P. sp. B-0667 (FERM-P 4438); S. sp. B-0668 (FERM-P 4439); A. viridans (1FO-12219) or A. viridans (1FO-12317).

Used for analysis of pyruvic acid (or pyruvate-generating systems), esp. for diagnostic purposes. 22.3.79 as 911481(40pp1251).

MERC- ★ D16 73900B/41 ★FR 2413-206
Non-return device for archimedean screw press - with reversed helical blades, used partic. for treating grapes
MERCIER-SANCHEZ 29.12.77-FR-039692
P71 Q56 Q66 (31.08.79) B30b-09/14 F04d-29/16 F16k-15

Non-return device for continuous presses, partic. those used for the treatment of grapes, is associated with an Archimedean screw rotating in a feed hopper and a cylindrical channel; at least one blade of the screw is reversed with respect to the remainder.

The press comprises a feed hopper, a cylindrical channel, the screw driven by the motor and a flap valve with a hydraulic jack regulator. The screw is in two portions so that one part is in the hopper and the remainder in the channel. The non-return device is between the two portions and consists of two blades with a reversed thread, mounted by means of flanges on the portions (3a, 3b) of th cylindrical channel. The part of the scrw is prolonged b a shaft passing through the device; the part is keyed to this shaft and kept in position by a nut screwed to its end

The normal progression of the material in the press i practically unrestricted and a notable economy in energy is achieved. 29.12.77 as 039692 (7pp519)

ANVR ★ D16 73914B/41 ★FR 2413-46
Microcalorimeter for biological experiments in controlled atmos. supplied with small flow of selected gas at controlled temp. (S 30.7.79)
AGENCE NAT VALORISATION 28.12.77-FR-039933
R14 +R16 (31.08.79) C12k-01 G01k-17 G01n-25/20 G01n-33/1

The microcalorimeter has a measuring cell to contain culture medium for the experiment and an identical reference cell. The cells are housed in a thermostatically controlled, thermally insulated block of material, esp. metal, which is a good heat conductor. Each cell has a multi-thermocouple temp. detector. Throughout an experiment, the head space above the culture medium in the sealed cell is filled with a gas of controlled compsn. A very low flow rate of the gas, at a temp. close to that of the block, is passed through the head space from a source outside the caldrimeter. Within the cell, the experiment takes place in controlled atmos. conditions.

The head space is pref. connected to the exterior of the thermocouple by two pipes, one for inflow and the other for outflow of gas. Each cell pref. takes the form of a shallow, cylindrical dish which rests upon the temp. detector. Through the top sealing cover of the cell are passed inflow and outflow pipes for gas, drive shaft for rotary agitator and graduated syringe(s) for injection of reagents.

The gas can be air for aerobic cultures, an inert gas to purge out gaseous cell prods. such as H_2, H_2S, methane etc., or CO_2 for the study of photosynthesis. 28.12.77 as 039933 (21pp448)

PROT= ★ D16 73964B/41 ★GB 2017-752
Apparatus for cultivating microorganisms such as yeast - including chamber for concentrating suspension of microorganisms giving biomass with low residual content of medium
PROTEINS BIOSYNTH 31.03.78-SU-597988
(10.10.79) C12k-01/10

Microorganisms are cultivated in an appts. which includes a vertical column to which are fed a culture medium and an inoculstive biomass. The column is divided into sections by transverse perforated partitions. An aerator is included in the bottom section while the uppermost section is used to concentrate the suspended microorganisms.

This concn. is effected using a horizontal chamber which converges towards a discharge nozzle for the concentrated suspension and also includes a partition to restrict the cross sectional area and to define a clarified culture liq. reservoir. Floating packing pieces inert to the culture medium are located in each column between upper and lowermost sections.

The appts. is used to cultivate microorganisms, e.g. yeast, on an industrial scale. The resulting biomass has a low residual content of culture media and thus requires less subsequent processing. 5.3.79 as 007738 (6pp245)

BIOT- ★ D16 73965B/41 ★GB 2017-754
Forming hybrid bacteria - by transducing packaged bacterial plasmid into Escherichia coli bacteria
BIOTECHN FORSCH MBH 31.03.78-DT-814039
B04 (10.10.79) C12k-01

Hybrid bacteria are formed by producing a hybrid plasmid from a bacterial plasmid of not more than 21 megadaltons and having one or more COS sites of a lambda or lambdoid phage and from a DNA fragment. The plasmid is packaged with the lysate of a lambda or lambdoid phage and then transduced into Escherichia coli.

Used for formation of bacteria which can produce antibiotics or human hormones. The process allows larger DNA molecules to be transduced into the bacteria. 30.3.7 as 11241 (11pp916)

AGY ★ D16 B/41 ★HU T017-044
GCC specific restricted endo:nuclease prodn. - by aerobic culture
f Bacillus sphaericus MNG 00152
MTA SZEGEDI BIOLOGI 27.07.76-HU-MA2798
B04 (28.09.79) C07g-07/02 C12d-13/10

CHIN ★ D16 B/41 ★HU T017-055
Gentamycin, sisomycin and garamine prepn. - by aerobic culture of
Micromonospora strain, used as antibiotics
CHINOIN GYOGYSZER 29.03.76-HU-CI1649
B05 (28.09.79) C07h-05/06 C07h-07/04 C12d-09/14

LLI- ★ D16 74004B/41 ★J5 4089-084
nactivation of enzymes - by treating active carbon carrier with an
rganic inactivator, and displacing the inactivator with the enzyme
ILLINOIS WATER TREA 03.10.77-US-838544
(14.07.79) C07g-07/02 C12d-13/10

An active carbon carrier is treated with a soln. contg. an organic inactivator and thereby, a complex compound having a reactive radical is produced on a surface of the active carbon carrier, and the complex compound on the active carbon carrier is treated with a soln. contg. the enzyme and by replacing the organic inactivator with the enzyme, a complex compound of carbon-enzyme is obtained. The complex compound of carbon-enzyme is separated from a reaction system by fractionating.

The organic inactivator is chosen from water soluble carbodiimide, quaternary ammonium salt of 1-cyclohexyl-3-(2-amino.ethyl)-carbodiimide or 1-cyclohexyl-3-(2-morpholino.ethyl)-carbodiimide-metho-P-toluene-sulphonate.

The process is used for purifying an organic compound which is produced by enzymatic reaction. 3.10.78 as 121916 (9pp15).

TORA ★ D16 74077B/41 ★J5 4110-274
Beta-amino:propionamide-methylated polyvinyl aromatic cpd. mouldings - for exchange and adsorption of high mol. wt. ions, enzymes or bacteria
TORAY IND INC 16.02.78-JA-016697
A13 (A14 A91) (29.08.79) B01j-01/22 C08j-07/12

Polyvinyl aromatic cpd. mouldings substd. by > 0.01 mole β-aminopropionamide-methyl gp. per mole aromatic nucleus of insoluble polyvinyl aromatic cpd., are claimed. The mouldings are produced by treating the insol. acrylamide methylated polyvinyl aromatic cpd. mouldings with amino cpds..

Typical mouldings are grains having a dia. < 500μ, films of < 500μ thickness and fibres of dia. 0.1-500μ. The insol. polyvinyl aromatic cpds. are polymers comprising mainly aromatic nucleus-contg. monovinyl cpds. such as styrene, α-methylstyrene, vinyl toluene. The amino cpds. include methylamine, propylamine, dipropylamine, hexamethylene diamine. 16.2.78 as 016697 (6pp136).

HANE/ ★ D16 74104B/41 ★J5 4110-316
Injectable oil soln. of Hydrophis sp. lipid - also contg. ethyl aminobenzoate and tocopherol, giving reduced pain on injection and having improved stability
HANEDA T 15.02.78-JA-016968
B04 (29.08.79) A61k-09/08 A61k-35/58

Oily injectable soln. comprises 0.5-5.0 w/v% of lipid of Hydrophis sp. (e.g. Laticauda senifasciata Reinw.), 0.5-2.0 w/v% of ethyl aminobenzoate and 0.01-0.1 w/v% of tocopherol or its acylate based on a vegetable oil base.

The lipid of Hydrophis, sp. has marked treating effects on sub-acromial bursitis, hernia of an intervertebral disc, sequels of whiplash, sciatic neuralgia and the like and is used as injection. However, the injection conventionally causes pain. Addn. of procaine hydrochloride or lidocaine alleviates pain but reduces the therapeutic effects. To the contrary, addn. of ethyl aminobenzoate not only removes the pain but also brings about improved therapeutic effects. Further, addn. of tocopherol or its acylate stabilises the injectable prepns. for a long time. 15.2.78 as 016968 (4pp140).

AJIN ★ D16 74122B/41 ★J5 4110-363
Clear, tasty, sweet and sour seasoning prodn. - by autolysing Acetobacter bacteria, opt. in protease, opt. heating, removing insolubles, and concentrating and/or drying
AJINOMOTO KK 15.02.78-JA-016212
(D13) (29.08.79) A23l-01/28

The method comprises autolysing acetic acid bacteria belonging to Acetobacter, opt. in the presence of protease; opt. heating it; removing insoluble residue from the extract; and concentrating and/or drying the extract. The clear extract shows good strong taste, good body, sweet-sour fragrance, and is inexpensive. It is free of yeast odour and can be used as a seasoning.

The bacterial strain is Acetobacter acetii IFO 3281, A. lancens IFO 3297, A. aciendis IFO 3299, etc.. The bacteria is cultured aerobically and is then formed into an aq. suspension contg. 3-30 g/dl. The suspension also contains a promoting agent for the autolysis (e.g. ethylacetate, toluene, etc.) in an amt. of 1-3 % and the autolysis is at 30-60°C and pH 4 - 10 for 10-50 hrs.. 15.2.78 as 016212 (3pp5).

AJIN ★ D16 74123B/41 ★J5 4110-364
Bacterial extract prepn., suutable for seasoning use - by autolysing Bacillus subtilis, opt. heating, and purifying to give 5'-ribonucleotide-contg. prod.
AJINOMOTO KK 15.02.78-JA-016213
(D13) (29.08.79) A23l-01/28

Method comprising autolysing bacterial body belonging to Bacillus subtilis opt. in the presence of protease, if necessary heating, removing insoluble residue from the extract and concentrating and/or drying the extract. The extract, contg. large amts. of 5'-ribonucleotide, has a strong good taste, round sourness and specific good taste and flavour originating from 'natto' bacteria. It is free of yeast odour and can be used as the material for seasoning.

Pref. 'natto' bacteria are used;practically Bacillus subtilis IAM 1028, IAM 1033, etc. are suitable. The bacteria are cultured aerobically as usual and after the culture, bacterial body is converted into an aq. suspension contg. 3-30 g/dl. In the suspension a promoting agent for autolysis (e.g. ethylacetate, toluene, etc.) is added 1-3 % and the autolysis is effected at 30-60°C at pH 4.0-10.0 for 10-50 hours. The autolysis can be also promoted by the presence of enzymes such as protease, peptidase, etc.. 15.2.78 as 016213 (3pp5).

GREC ★ D16 74125B/41 ★J5 4110-384
Medium for culturing human lymphocyte strain - comprises known medium contg. aminoacid(s) and additional tryptase phosphate broth and opt. serum
GREEN CROSS CORP 15.02.78-JA-016341
B04 (29.08.79) C12d-13/06 C12k-09

Medium comprises a known medium for tissue culture contg. necessary aminoacids having incorporated tryptose phosphate broth (TPB) and opt. serum. TPB is pref. added to a final concn. of 0.1-0.5 w/v%, and serum is pref added to a concn. of 0.2-2 w/v%. A pref. medium for tissue culture is RPMI 1640. pH of the medium is pref. 5-8.

The culture system makes it possible to increase multiplying ability of cells, and can produce such a high cell concn. that the culture liquid can be utilised as it is for producing interferon or immunising agent of anti-lymph sphere globulin. Number of cells to be inoculated for successive cultivation is pref. < 1-20x10^5 cells/ml, more pref. 5-10x10^5 cells/ml. Cultivation is conducted at 25-45°C, pref. 30-40°C, at a pH of 5-8 for 5-10 days. 15.2.78 as 016341 (8pp140).

TOYM ★ D16 74126B/41 ★J5 4110-385
Fixing enzymes to high molecular carrier - obtd. by graft-copolymerising radical copolymerisable monomer to high molecular cpd. via a covalent bond
TOYOBO KK 13.02.78-JA-015808
A96 B04 (29.08.79) C07g-07/02 C12d-13/10

The fixed enzyme can be in varying form (e.g. powder, granule, film, sheet, fibre, etc.) and has excellent enzymic activity and preservation. Many kinds of enzymes

Fusarium, are cultured on a nutrient medium, and the produced lipoxidase collected. The microorganisms include Fusarium sp. No. 81-1. 21. 8. 74 as 094958, C12d-13/10 (17. 9. 79) KYOWA HAKKO KOGYO K (6pp) (J5 1029290)

KYOW D16 14740W/09 = J7 9028-472

Laevo-glutamic acid prepn - by bacterial fermentation in methanol-contg. nutrient medium using pseudomonas or protaminobacter mutants

KYOWA HAKKO KOGYO 11.08.73-JA-089679

*E16 (D13) (17.09.79) *DT2438-206 C12d-13/06*

Biotechnical L-glutamic acid (I) prepn. takes place by (i) cultivating a microorganism capable of assimilating MeOH and of producing (I) in a nutrient medium contg. MeOH as main C-source and (ii) sepg. (I) from fermentation liquor.

Microorganism is a mutant prepd. from a pseudomonas or protaminobacter species and has at least one property such as (a) L-methionine requirement, (b) L-isoleucine requirement, (c) L-phenyl alanine requirement or (d) resistance to DL-lysine hydroxamate.

(I) is a spice and flavouring material. Yields of (I) are 5-10 x higher when using mutants than when using parent strains. 11. 8. 73 as 089679, C12d-13/06 (17. 9. 79) KYOWA HAKKO KOGYO CO. LTD. (3pp) (J5 0040786)

MEIJ D16 06328W/04 = J7 9028-473

Antibiotic BN 68 prepn - from cultures of newly-isolated Pseudomonas

MEIJI CONFECTIONERY 09.10.72-JA-100705

*B04 (17.09.79) *J49055-897 +A61k-31/12 C07c-49/82 C12d-09/20*

In an example, Pseudomonas sp. (BN-68) was cultured at 37° for 5 days in a medium contg. glucose and bouillon. The culture was heated at 120° for 2 min. and filtered. The filtrate was extd. with EtOAc, the EtOAc ext. was dried with Na_2SO_4 and evapd. to dryness, The residue was extd. with BuAc and worked up to yield the cryst. antibiotic cpd. BN-68. 9. 10. 72 as 100705, A61k-31/12, C12d-9/20, C07c-49/82 (17. 9. 79) MEIJI CONFECTIONERY CO. (6pp) (J4 9055897)

KURE D16 78918A/44 = J7 9028-474

Antitumour polysaccharide prodn. from Naematoloma sublateritium - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008253

*B04 (17.09.79) *J53109-922 A61k-35/84 C07g-11 C12d-09/04*

Prod. of an antitumour polysaccharide from Naematoloma sublateritium fungi comprises extracting the mycelia of the fungi obtd. by artificial culture, and eliminating low molecular components of mol. wt. < 5000 from the extract. The resulting polysaccharide gives positive colour reactions with α-naphthol-H_2SO_4, phenol-H_2SO_4, indole-H_2SO_4, anthrone-H_2SO_4, tryptophan-H_2SO_4, Lowry-Folin reaction and ninhydrin reaction after HCl-hydrolysis.

The polysaccharide exhibits potent antitumour activity on peritoneal or oral admin. to mice (Sarcoma 180). It also exhibits liver function improving action, antidarrhoeal action and diuretic action. Also effective in recovery of immunity, prevention of adverse reactions caused by chemotherapy, and enhancement of susceptibility to irradiation The mycelia can be produced by culture of a part of a plant to which the fungi adhere, or the fruiting body tissue or the spores on a liq. medium contg. the necessary nutrients. 9. 1. 77 as 008253, C12d-9/04, A61k-35/84, C07g-11/00 (17, 9. 79) KUREHA CHEM. IND. KK (6pp) (J5 3109922)

KURE D16 78919A/44 = J7 9028-475

Antitumour polysaccharide prodn. from Pholiota squarrosa - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008254

*B04 (17.09.79) *J53109-923 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above, but using Pholiota squarrosa in place of Inonotus. 29. 1. 77 as 008254, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM. IND KK (6pp) (J5 3109923)

KURE D16 78920A/44 = J7 9028-476

Antitumour polysaccharide prodn. from F. mokusin - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008255

*B04 (17.09.79) *J53109-924 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above but using F. Mokusin in place of Inonotus. 29. 1. 77 as 008255, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM. IND. KK. (6pp) (J5 3109924)

KURE D16 78921A/44 = J7 9028-477

Antitumour polysaccharide prodn. from Dicryophora indusiata - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008256

*B04 (17.09.79) *J53109-925 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above, but using Dicryophora indusiata in place of Inonotus. 29. 1. 77 as 008256, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM. IND. KK (6pp) (J5 3109925)

KURE D16 78922A/44 = J7 9028-478

Antitumour polysaccharide prodn. from Phizopogon rubescens - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008257

*B04 (17.09.79) *J53109-926 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above but using Phizopogon rubescens in place of Inonotus. 29. 1. 77 as 008257, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM. IND. KK (6pp) (J5 3109926)

KURE D16 78923A/44 = J7 9028-479

Antitumour polysaccharide prodn. from Lycoperdon perlatum - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008258

*B04 (17.09.79) *J53109-927 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above but using Lycoperdon perlatum in place of Inonotus. 29. 1. 77 as 008258, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM. IND. KK (6pp) (J5 3109927)

KURE D16 78924A/44 = J7 9028-480

Antitumour polysaccharide prodn. from Calostoma japonicum - by extracting cultured mycelia and removing low molecular components from the extract

KUREHA CHEM IND KK 29.01.77-JA-008259

*B04 (17.09.79) *J53109-928 A61k-35/84 C07g-11 C12d-09/04*

Process and product are as described in J7 9028474 above but using Calostoma japonicum in place of Inonotus. 29. 1. 77 as 008259, C12d-9/04, A61k-35/84, C07g-11/00 (17. 9. 79) KUREHA CHEM IND KK (6pp) (J5 3109928)

KYOW D16 10537X/06 = NL-161-502

L-Lysine production by high yield fermentation - with micro-organism cultured in presence of culture broth of L-leucine-producing organism

KYOWA HAKKO KOGYO 17.07.74-JA-081142

*B05 E16 (17.09.79) *NL7508-597 C12d-13/06*

L-Lysine (I) is produced by culturing a (I)-producing mutant of a Coryne form glutamic acid-forming bacteria in a medium which contains the customary components as well as the sterilised culture liquid of an L-leusine-producing mutant of a Coryne form glutamic acid-producing bacteria.

(I) is one of the essential amino acids for man and animals and is used as a food- and feedstuff supplement. The process gives a greatly increased yield.

Pref. mutants of Corynebacterium glutamicum are used such as ATCC 13286, 13287, Brevibacterium flavum ATCC 21475, 21127, etc. L-leucine producing mutants are pref. e.g. Brevibacterium flavum ATCC 21889, B. lactofermentum ATCC 21888, C. glutamicum ATCC 21301-21308, etc. The L-leucine culture liquid added must be sterilised before use in the process. (I) is isolated and purified in known ways. 17. 7. 75 as 008597 (12pp279).

MA D16 34668W/21 =NL-161-503
lture tube for microorganism analysis - with retractable piston
ransparent tube of oblong section and filler spout
KEMANOBEL AB 13.11.73-SW-015344
*+R16 (17.09.79) *DT2453-858 C12k-01/10*

sample is analysed for possible microorganisms by mix-
g a given quantity of the sample with a specific quantity
nutrient for the particular microorganism, incubating
e mixt. and then examining the product for growing col-
ies. An indicator may be included to assist in the exam-
ation. For anaerobic bacteria, this process is carried
t in a syringe type holder with a rectangular type cross-
ection and transparent walls, the sample and the nutrient
eing drawn into the syringe via an opening in the end of
e holder.

The syringe plunger ensures that the conditions during
ampling and incubation remain anaerobic and the trans-
arent walls enable the subsequent examination for colon-
es to be carried out without removing the culture from
he holder. The device is simple and economic. 13.11.74
s 014821 (6pp1370).

ARR- ★ D16 B/41 ★PT--69-029
ontinuous press for e.g. grapes - has piston and fan for controlling
ressure within compression chamber formed from grooved plate
MARRODAN Y REZOLA 16.01.78-ES-233279
P71 (20.09.79) A23n B30b

AMLM= ★ D16 74696B/41 ★SU-636-533
Wine maturation quality control - includes measuring changes in
edox potential for early detection of bacterial contamination etc.
AS MOLD MYCOLOGY 22.09.76-SU-407825
R16 (05.12.78) G01n-33/14

The quality control is improved by carrying out the redox measurements at 10-15 day intervals (the first measurement 8-12 days after the beginning of the storage). A 10-20% decrease of the redox potential of wine indicates worsening of its quality caused by the action of microorganisms or enzymes, or by the presence of heavy metal salts, etc.

These effects can be counteracted by the known method when detected early.

Malkovskaya, L.M., Malkovskii, V.S., Brynza, R.V. et al. Bul. 45/5.12.78. 22.9.76. as 407825 (2pp70)

FOOD= ★ D16 74748B/41 ★SU-639-930
Alcohol three-column distillation unit control - by fermented mash distillate flow regulation based on alcohol concentration in fractionation column control zone
FOOD IND AUTOM RES 02.08.77-SU-514386
(22.02.79) C12f-01/02

The control of the three-column alcohol prodn. unit is improved by maintaining a given flow rate of fermented mash distillate. The flow is set as a function of a parameter characterising the concentration of alcohol in the control zone of the rectification column. The method can also be used in petrochemical industry.

When it is necessary to raise the output of the unit, the setting of the controller is raised so that the draw-off of rectified alcohol is augmented. The flow rate of the intermediate fraction remains unaltered causing a change in the concn. of the control zone in rectification column. The transducer signal resets the flow of fermented mash distillate into the purification column, thus increasing the delivery of the intermediate fraction into the rectifying column to restore the balance.

Akselrod, L.A., Petrunya, V.I., Mandelshtein, M.L. Bul. 48/30.12.78. 2.8.77. as 514386 (3pp89)

FARH D16 38970T/24 =SU-640-639
Control of foaming reactions - particularly fermentation processes
HOECHST AG (KNAP) 05.12.70-DT-059931
*+R26 (30.12.78) *BE-776-207 B01j-01 +G05d-27*

Control of reactions, particularly biological fermentations taking place in closed reactors in which the introduction of gas causes intense foaming with marked and irregular variation, by continuous regulation in a pre-determined zone of the pressure in the foam phase above a liquid phase by modifying the volume of the latter as a result of varying the quantities of liquid phase introduced into and/or discharged from the reactor. Karrenbauer, K., Yaekel H, Kirstein, D. et al. Bul. 48/30.12.78. 3.12.71. as 722200 (3pp)

KOMP= ★ D16 74922B/41 ★SU-642-360
Rennin extn. from lamb or calf abomasum - includes specified partial dehydration and freeze drying to increase enzyme activity
KOMPLEKS BIRD PROC (MORE=) 01.04.77-SU-473665
(15.01.79) C07g-70/26 C12d-13/10

Rennin is obtd. from lamb and calf abomasa by (a) comminuting, (b) extracting the rennin, (c) leaving the extract to stand, (d) filtering, (e) salting, (f) preliminarily dehydrating at -15° to +10°C to 65-82% moisture and (g) freeze-drying.

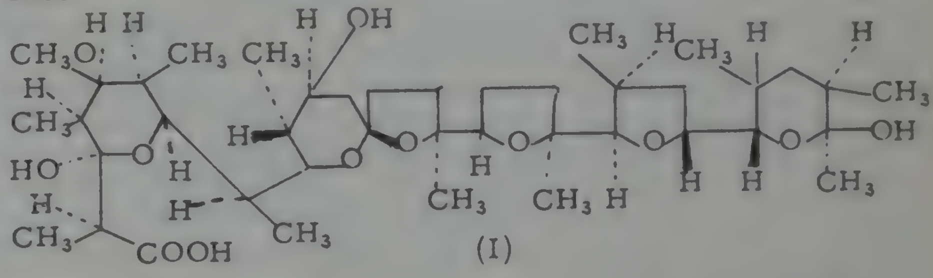
The dehydration and drying steps improve the yield and prevents enzyme inactivation. The freeze-drying is pref. carried out by freezing granules of the rennin in a cryogenic liquid (pref. liquid N_2) and then sublimating at -20° to -39°C for the frozen layer and at 38°-40°C for the dry layer.

Ustinov, M.N., Bogdanov, V.S., Gorshkov, I.K. et al. Bul. 2/15.1.79. 1.4.77. as 473665 (2pp314)

SANO D16 14639Y/09 =SU-643-085
Metabolite S11743A from Streptomyces mutabilis - useful as antimicrobial and cardiac stimulant
SANDOZ AG 02.09.75-CH-011405
*B03 (15.01.79) *BE-845-708 C12d-09/14*

Metabolite S11743/A of formula (I) and its salts (esp. alkali(ne earth) and NH_4 salts) have been prepared.

(I) inhibits certain microorganisms e.g., Gram positive bacteria and the layer fungi and also increases the contractile force of the myocardium and the coronary flow rate.



(I)

Kuhn, M., King, H.D., Herri, O. Bul. 2/15.1.79. 31.8.76. as 391602 (4pp)

KSAG= ★ D16 75015B/41 ★SU-643-120
Nutrient medium for growing mushrooms - contg. potatoes, agar-agar, glucose, oat flour, collagen and water, used for sterile spores prodn.
KISH AGRIC INST 27.06.77-SU-500665
P13 (25.01.79) A01g-01/04

Nutrient medium for growing the mycelium of edible mushrooms Agaricus bisporus, based on a potato-glucose decoction is improved by addition of oat flour and collages proteins.

By this method the mycelium growth is accelerated and its quality is improved. The compsn. contains in g/l. potatoes 100-110, agar-agar 18-20, glucose 14-15, oat flour 25-30, collagen proteins 3,5-4.5, and water up to 1l. The cultivation is carried out under sterile conditions.

Dodyleva, S.N., Yurchuk, E.G. Bul. 3/25.1.79. 27.6.77. as 500665 (2pp70)

VYRM- ★ D16 75075B/41 ★SW 7713-889
Extracting metal from sulphide ore in situ - by adding oxidising microorganisms and oxygen to water, pumping it into ground, allowing it to percolate and recovering metal ions
VYRMETODER AB 07.12.77-SW-013889
M25 (09.07.79) C22b-03

INMR D16 01906B/02 =US 4169-761
Bulk culture of viruses in suspension of cells and collagen fibres - esp. useful for industrial culture of rabies virus for vaccine prodn.
INST MERIEUX 30.06.77-FR-020115
*B04 C03 (02.10.79) *BE-868-573 C12k-09 +C12b-03*

A virus is cultivated in a fermenter contg. a suspension of cells and collagen fibres in an appropriate nutritive medium. The fibres are present in amt. of 2-8 g.l^{-1}. The cultivation is carried out with agitation, then decanting the fibres, and recovering the supernatant.

Pref. after a first cultivation, the supernatant is eliminated, fresh nutritive medium is added and fresh cultivation carried out, the resulting supernatant being recovered. The concn. of cells is 50,000-500,000 cells per ml.

Process is esp. used to culture strains of rabies virus. 23. 6. 78 as 918962 (2pp931)

PHIP ★ D16 75163B/41 ★US 4169-762
Self-toxification process for aerobic fermentation - includes starving microorganism of growth essential material until propagation ceases, reintroducing material so biocidal agent forms
PHILLIPS PETROLEUM CO 25.08.77-US-827761
(02.10.79) C12b-01/08

Self-toxification method for aerobic fermentations using O_2 and a C source (I) and propagating >1 microorganisms capable of generating a biocidal agent is as follows: (a) the microorganism is starved of a growth essential material (II) for long enough so that propagation ceases; (b) when propagation ceases, (II) is reintroduced in amts. sufficient to cause the microorganism to generate toxic concns. of a biocidal agent (III) which then kills the microorganism. Under the above conditions, the amt. of (II) reintroduced is less than the amt. required to kill the microorganism without the starvation period.

The inexpensive method avoids the use of toxic materials, does not reduce nutritional values, and is esp. useful for foam-type processes. 25. 8. 77 as 827761 (8pp478)

KYOW D16 04816A/03 =US 4169-763
L-lysine prepn. - by culturing Corynebacterium strains resistant to sulphonamides and/or aspartic acid analogues
KYOWA HAKKO KOGYO 09.07.76-JA-081016
*B05 E16 (02.10.79) *DT2730-964 C12d-13/06*

L-lysine is produced by fermentation by culturing a strain of species Corynebacterium glutamicum having an ability to to produce L-lysine and a resistance to aspartic acid hydroxamate and/or sulphamethazine in a nutrient medium. The L-lysine is accumulated in the culture liquor and isolated.

Pref. the strains C. glutamicum FERM-P 3633, NRRL-B-8182 or C. glutamicum FERM-P 3664, NRRL-B-8183 are used in the culture. Cultivation takes place at 20-40°C at pH 3-9. for 1-7 days.

The L-lysine produced is an essential amino acid used as a medicament or additive animal feed or food. 11. 7. 77 as 814621 (3pp931)

TECD ★ D16 75164B/41 ★US 4169-765
Rapid determn. of alpha-amylase in aq. samples contg. glucose - by flow through successive immobilised reagents
TECHNICON INST 12.05.78-US-905498 (14.09.77-US-833318)
B04 J04 R16 (02.10.79) G01n-31/14

α-Amylase (I) in aq. soln. is determined quantitatively by using appts. comprising a reservoir contg. a buffer diluent that is pumped through a line, and the aq. sample is injected into the stream. It passes to a container contg. immobilised scavenger reagents for removing glucose that contaminates the sample, than to a container contg. immobilised starch reagent for reacting with the (I) to produce oligosaccharides. These are reacted with immobilised glucose-generating agent in a subsequent container so that glucose is formed.

Then the mixt. is passed to a chamber contg. immobilised reagent for oxidising the glucose to generate H_2O_2 and a detector to ascertain the amt. of H_2O_2 formed.

The analysis is rapid, highly specific and sensitive, and after flow-through of the sample, a quantitative read, out of the (I) concn. is obtd. Samples used include blood serum and urine, esp. when (I) concn. is being used in the diagnosis of acute pancreatitis. 12. 5. 78 as 905498 (18pp1248)

MINN ★ D16 75192B/41 ★US 4169-804
Magnetically responsive composite microparticle - of porous water-insoluble matrix and magnetically responsive material, for labelling or carrying medicaments and drugs
MINNESOTA MINING CO 20.06.77-US-808334 (19.08.76-US-715901)
B05 J04 R16 (02.10.79) A61k-09/50 G01n-33/16

A magnetically responsive composite microparticle consists of (i) a water-permeable, solid, water-insoluble matrix selected from proteinaceous materials, polysaccharides and their mixts. and (ii) a magnetically responsive material dispersed throughput the matrix.

The micro-particles may be substd. for prior art microparticles in labelling or carrying medicaments and drugs, and are easily retrieved or relocated. They may also be used in chemical reactions e. g. as catalyst if the matrix is a water-insoluble enzyme, and may be easily recovered. They may also be used in vitro techniques for determining concns. of substances present in biological fluids, and they have a substantially greater binding capacity than prior art compsns. because they are permeable. 20. 6. 77 as 808334 (8pp476)

HERT/ D16 18510B/10 =US 4169-886
Fowl cholera vaccine against Pasteurella multocida - comprises an avirulent strain esp. M-3-G (aTCC no. 31416)
HERTMAN I (IRRM) 24.08.77-IL-052815
*B04 C03 (02.10.79) *GB2003-029 A61k-39/02*

A live vaccine against Pasteurella multocida, for application to poultry by injection, per os or as aerosol, contains an attenuated non-virulent genetically stable starch of P. multocida which is M-3-G, ATCC No. 31416. Pref. the vaccine is in unit dosage from contg. 10^8-10^{11} bacteria per bird dosage.

The strain is completely avirulent to turkeys and chickens, does not revert to the original virulence, does not cause any mortality in birds harbouring Mycoplasma spp. and immunity is against homologous as well as heterologous strains. 21. 8. 78 as 935638 (4pp992)

PFIZ ★ D16 75232B/41 ★US 4169-887
Antibiotic cpds., 48926 and 48927 from Actinoplanes deccanensis - useful as antibacterial agents
PFIZER INC 02.08.78-US-930399 (21.02.78-US-879607)
B04 C03 (02.10.79) A61k-35

Antibiotic cpds. 48926 and 48927 are new. Both cpds. are soluble in $CHCl_3$, Et acetate and MeCOiBu and insoluble in heptane, hexane and water. Cpd. 48926 has $[\alpha]_D$+413° (c, 0. 097 in $CHCl_3$); it analyses for C55. 76%, H5. 39%, 5. 36% N and O 33. 49%; and characteristic u. v. and i. r. spectra. Cpd. 48927 has $[\alpha]_D$+513° (c, 0. 101 in $CHCl_3$); it analyses for C 55. 03%, H4. 95%, N5. 06% and O34. 96%; and characteristic u. v. and i. r. spectra. Antibiotic complex comprising the above cpds. may be obtd. by culturing Actinoplanes deccanensis ATCC 31355.

The cpds. are antibacterials, esp. for treating staphylococcal infections in man and animals. Dose is 0. 5-1g orally per day. 2. 8. 78 as 930399 (7pp1248)

UPJO D16 31828B/17 =US 4169-888
Antibiotic CC-1065 - disinfectant, oil preserving agent and for protecting silk worms from infection from Bacillus subtilis, prepd. from Streptomyces zelensis
UPJOHN CO 17.10.77-US-842914
*B04 C03 H07 (02.10.79) *DT2841-361 C07g-11 C12d-09/14*

Antibiotic CC-1065 (I), which is active against Gram.-pos. and -neg. bacteria, is claimed. In pure form, (I) has a mol wt. of 700; an elementary analysis of C 61. 06, H 4. 92 and N 13. 17 and is soluble in DMSO, DMF, acetone, methylene chloride, ethyl acetate and dioxan. Characteristic IR, NMR and proton spectra are given.

(I) is prepd. by cultivating Streptomyces zelenis (NRRL 11183) in an aq. nutrient medium under aerobic conditions. Pref. the medium contains a source of assimilable carbohydrate and assimilable N. Also claimed is a process for recovering (I) from a fermentation beer by extracting filtered beer with a solvent for (I).

(I) can be used as an oil preservative, in washing solns for sanitation purposes, and to treat breeding places of silkworms. 17. 10. 77 as 842914 (10pp992)

MEIJ D16 28137B/15 =US 4169-889
Broad-spectrum antibiotic BN-200 - obtd. by culturing Erwinia strain
MEIJI SEIKA KAISHA 04.10.77-JA-118538
*B04 (02.10.79) *DT2841-374 A61k-35*

An antibiotic BN-200 substance (I) is claimed. (I) is a white powder of mol. wt. 520 (titration value) with an elementary analysis of C 67. 46%, H 7. 24%, N 7. 55%, O 17. 75% (balance). (I) begins to turn brown at 150°C and begins to decompose at 156°C. Specific Rotatory Power

$_D^{20}$ is -70.7 (c is 1, methanol). Characteristic UV and R spectra are given.

(I) is prepd. by aerobically cultivating Erwinia sp. BN-00 strain (FERM-P 3561/ATCC-31420) in a culture medium contg. assimilable C and N sources at 20-35°C. The N-200 is recovered from the culture broth. 4. 10. 78 as 48459 (6pp992)

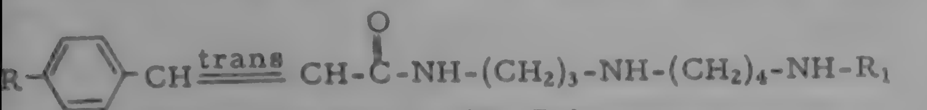
MCY ★ D16 75233B/41 ★US 4169-891

ontrolling swine dysentery - by administering antibiotic BM123-amma in animal feed, formed by fermentative biosynthesis from ocardia NRRL5646

AMERICAN CYANAMID CO 17.07.78-US-925661

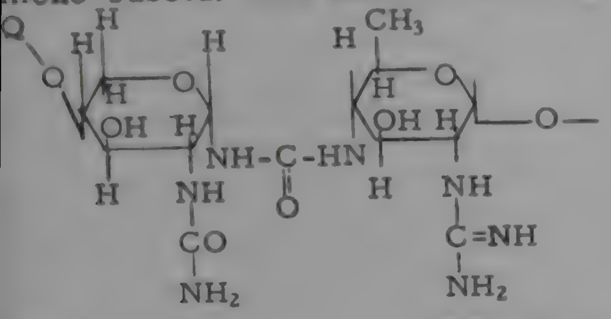
B03 C02 (02.10.79) A61k-31/71

Method of controlling swine dysentery comprises orally dministering to swine an effective amt. of antibiotic BM1238 of formula (I) its salts or complexes, in the animal feed, (where R_1 is H, 1-10C alkyl, or 2-6C alkyl

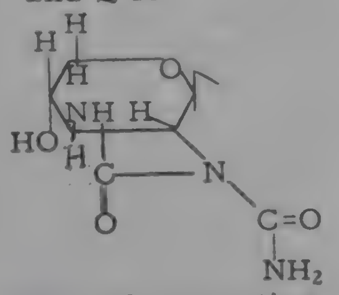


(I)

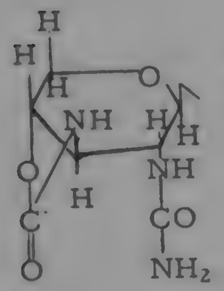
mono-substd. with halo or OH; R is



and Q is



and/or



Effective method of preventing and controlling swine dysentery is provided. The feed contains 1-100 ppm pref. 5-20 ppm. (I).

17. 7. 78 as 925661 (5pp954)

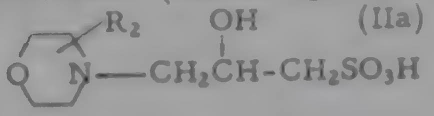
REOR- ★ D16 75262B/41 ★US 4169-950

Amino-hydroxy-alkylene sulphonic acid zwitterions - useful as hydrogen ion buffers in biological research partic. for tissue culture

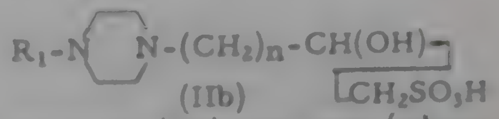
RESEARCH ORGANICS 08.12.77-US-858616

B03 (02.10.79) C07d-295/10

Morpholinyl hydroxyalkalene sulphonic acids of formula are new. (where R_2 is H, 1-5C alkyl or hydroxyalkyl).



(IIa)



(IIb)

Amino sulphonic acids of formula (IIb) are new. (where R_1 is H, 1-5C alkyl or hydroxyalkyl or $(CH_2)_nCH(OH)$-CH_2SO_3H, and n is 1 or 2).

The cpds. are hydrogen ion buffers, useful for biological research. 8. 12. 77 as 858616 (5pp954)

See Also

D12 J7 9011374
D13 DT 2909854
D21 J5 4110337
D13 BE 876788
D15 SU 642352
D13 DT 2814122
D17 J7 9028455

D17: SUGAR; STARCH

CHEM- D17 74226S/47 =DS 2123-095

Sugar beet washer and dryer

CHEMADEX (PRZ -) 08.05.70-PO-140493

*(04.10.79) *DT2123-095 A23n-13*

A water separator for use on root crops, such as sugar beet, after their washing operation, consists of an endless belt which is wrapped around two return drums. The belt consists of parallel V-belts and the root crops are moved along on the wide base of the belts. Support drums between the return drums are partly smooth and partly with V-grooves to act as guides for the belts. A jockey pulley, applied to the bottom strand, maintains the correct tension.

This has a high dewatering efficiency and its gentle movement over the support drums causes no damage to the root crops. Blockages of the gaps between the V-belts cannot occur. 10. 5. 71 as 123095 (6pp39)

PURD ★ D17 73955B/41 ★GB 2017-710

Recovering cellulose from waste materials - by dil. acid hydrolysis, dissolving in conc. acid and reprecipitation

PURDUE RESEARCH FOUNDATI 08.03.78-US-884480

E13 F09 (10.10.79) D21c-01/04

Cellulose (I) is recovered by first hydrolysing cellulosic material with dilute acid then removing hemicellulose. The residue is mixed and blended with conc.acid to dissolve (I), which is then repptd. by diluting with a suitable solvent.

The acid is esp. H_2SO_4 and the conc. acid is 60-90%. (I) is pref. pptd. with 2-5 vols. water or with methanol. (I) may then be hydrolysed to glucose with cellulose and/or dil. acid.

Used for processing waste material such as corn stover. A high proportion (97 wt.%) of (I) is repptd. and most (> 90%) of the acid used can be recycled. (I) is prod. with a lower degree of polymerisation and disrupted internal structure and lignin seal, so is easily converted to glucose. 28.2.79 as 907045 (5pp1251)

NISS- ★ D17 74118B/41 ★J5 4110-338

Sugar soln. clarification - by adding tannic acid and chitosan and coagulating suspended material

NISSHIN SEITO KK 15.02.78-JA-016915

(29.08.79) C13d-03/12

Method comprises adding tannic acid and chitosan to a sugar soln. and coagulating the suspensoids in the sugar soln..

Low grade sugar solns. can be easily clarified and the coagulate can be sepd. by centrifuging. The method can be adapted for a sugar soln. having a solid concn. as high as 60 w/w%.

Process is pref. at > 50°C. Tannic acid is used in an amt. of 300-2000 ppm on sugar soln. and chitosan is used in an amt. of 2-200 w/w% on tannic acid. Usually tannic acid and chitosan are used in amts. of 500-1500 ppm and 100-400 ppm respectively on the sugar soln.. 15.2.78 as 016915 (3pp5).

AGEN ★ D17 74639B/41 ★J7 9028-455

Beet sugar prodn. - involves diluting and weakly acidifying molasses, reacting with alpha-galactosidase,contg. bacteria, filtering etc.

AGENCY OF IND SCI TECH 00.00.73-JA-119350 (16.11.67-JA-073848)

(D16) (17.09.79) C13f-01/12 C13j-01

In the prodn. of beet sugar, which involves liming of diffusion juice, carbonation, clarification, concn. sepn. of sugar pptd. liming of the mother liquor (molasses) to ppte. Ca saccharate and recycling of the saccharate to the clarification step, the improvement comprises diluting and weakly acidifying the molasses, reacting α-galactosidase-contg bacteria with the molasses to decompose raffinose present into sucrose, filtering the molasses, liming the filtrate to ppte. Ca saccharate, and recycling the saccharate to the clarification step.

The method prevents accumulation of raffinose and increases yield of sucrose. The bacteria used is e.g. Mortierella vinacea var. raffinoseutiliser, Streptomyces olivaceus var. raffinoseutilizer, etc. 16.11.67 as 119350/73 Div. ex 73848/67, C13f-1/12, C13j-1/00 (17.9.79) AGENCY OF IND. SCI. TECH. (5pp83)

HAYA/ D17 16216T/10 =J7 9028-457

Fractionation of aryloses - by dissolution in aqs solvents

HAYASHIBARA K (HAY /) 28.08.70-JA-075374

*(17.09.79) *BE-771-851 C13l-01/12*

Method comprises (a) drying amylose contg. molecules of various degree of polymerisation, (b) finely dividing the amylose, and (c) extracting short chain amylose (D.P. 15-50) with water water or water-organic solvent mixture.

The drying converts long-chain amylose (D.P. > 50) to a strongly hydrogen-bonded state, which has extremely low solubility and swelling property in water and hence is readily sepd. from water.

Specifically the amylose mixt. is obtd. usually by reacting α-1.6-glucosidase with corn starch, potato starch, etc. to hydrolyse branches of amylopectin. The amylose soln. is dried by drum dryer, spray dryer. etc. to give dry mixt. of water content ⩽18% and particle size < 60 mesh. The extn. is carried out by dispersing the dry amylose in water or water-butanol at 60-80°C and stirring for 2-20 min. 28.8.70 as 075374, C131-1/12, (17.9.79) HAYASHIBARA K. (6pp83)

NATT ★ D17 74669B/41 ★NL 7900-914

Cold water swelling starch prodn. - by two/stage crosslinking of starch with sodium tri:metaphosphate, useful as thickener for foodstuffs

NAT STARCH & CHEM CORP 20.03.78-US-888382

A11 (A97 D13) (24.09.79) A23l-01/19 C13l-01/08

Cold water swelling starch derivs. are made by first subjecting the starch to a prim. crosslinking reaction in which the granular starch base is reacted with Na trimetaphosphate in an aq. slurry at pH 10-12 and at a temp. which is sufficiently low to maintain the starch in a non-swollen granular state. The slurry is then neutralised to pH 5-6.5 and the prim. crosslinked starch is recovered. The resulting starch is then re-suspended in water at a pH of ⩾7.5 and extra Na trimetaphosphate is added. The slurry is then drum dried to bring about a sec. in situ crosslinking reaction, and the resulting cold swelling starch prod. is recovered.

Process gives cold swelling starches having improved viscosity characteristics, useful as thickners in foodstuffs to give an excellent heavy-bodied, natural pulpy texture with a good mouth feel. 5.2.79 as 000914 (18pp513).

TATL D17 72498W/44 =SU -618-054

Sugar crystallisation by high shear nucleation - as continuous process via colloid mill or homogeniser with short retention time

TATE & LYLE LTD 16.04.74-GB-016572

*(25.07.78) *BE-827-985 C13f-01/02*

In a sugar crystallisation process a supersatd. sugar syrup is subjected to an intense shear force with a spee gradient not less than 5,000 cm/sec./cm in order to initiate homogeneous nucleation of the sugar. The spee gradient is pref. > 10,000. esp. ⩾20,000 cm/sec/cm. The shearing process can be effected in a continuous colloid mill with a retention time of 0.1-0.5 sec. or in continuous homogeniser with a retention time of 0.0001-0.001 sec.

The process may be continuous and is simpler and le costly than previous processes, compared with which it offers an improved yield of high quality product. The syrup pref. contains < 15 wt.% impurities, is at ⩾123°C and has a sugar concn. of ⩾90°Bx.

Nichol, W.M. Bul. 28/30.7.78. 16.4.75. as 126846 (4pp

KOPO= ★ D17 74749B/41 ★SU -639-94

Controlled drive for diffusion appts. worm in sugar beet processing has output from command unit to reference rotational speed sette at input to thyristor converter

KRASND POLY 14.05.76-SU-360572

(30.12.78) C13c-01/08

The known controlled drive for the worm of a diffusion apparatus contains a command unit, thyristor converter and d.c. motor. For more intensive diffusion, a worm rotational speed setter is introduced in order to time worm acceleration and deceleration. The cyclical rotation of the worm sets up pulsatile movement of the liquid and solid phases. This reduces begasse sugar loss by 15-20% in processing sugar-beet for the foodstuffs ind.

The timing is in accordance with formulae. The run-up and deceleration time are: $T_r = T_d = (\omega_{max} - \omega_{min})$ ε, where ε is rotational acceleration. The lag between run-up and run-down $T_l = T_r \times \left[\frac{\omega_r - \omega_{min}}{\omega_{max} - \omega_r} - 1\right]$ if $\omega_r > \omega_{av}$ ω_{av} is mean rotational speed in rad/sec. But if $\omega_r < \omega_{av}$, the lag is $T_l = T_r \cdot \left[\frac{\omega_{max} - \omega_r}{\omega_r - \omega_{min}} - 1\right]$.

Sibirskii, V.A., Dobrobaba, Yu.P., Shcherbakov, A.E. Bul. 48/30.12.78. 14.5.76. as 360572 (3pp840)

CELA ★ D17 75258B/41 ★US 4169-945

Prodn. of alkyl ether derivs. of poly:galactomannan gum - with good stability and viscosity properties for use in petroleum, textile, printing and pharmaceutical industries

CELANESE CORP 05.01.78-US-867269

A11 B04 H01 (A97) (02.10.79) C08b-37

Prepn. of alkyl ethers of polygalactomannan, gum by reacting polygalactomannan gum (I) with alkyl halide (II) is improved by carrying out the reaction in the presence of at least a stoichiometric quantity of a strongly basic metal hydroxide (based on wt. of (II)), and 0.05-5 wt.% of a non-reactive water soluble quaternary ammonium halide phase-transfer agent (based on wt. of (I)). Reaction is in an aq. medium at 10-100°C fpr a period sufficient to achieve a degree of substitution by alkyl ether gps. of 0.0 -3.

The prods. have a greater degree of clarity, and are more stable under extreme conditions of pH and in the presence of polyvalent metal ions. The prods. are superio to conventional gums for application in petroleum, textile, printing, paper, food and pharmaceutical industries. The prods. have excellent viscosity and suspending properties for application as gelling agents in hydraulic well-treating fluid compsns. They have resistance to bacterial degradation. 5.1.78 as 867269 (5pp954)

See Also

D13 GB 1553890 D15 J5 4110648

D18: SKINS; HIDES; LEATHER; TOBACCO

VE D18 09351T/06 =DS 2136-118
bacco chewing substitute - contg tobacco alkaloid
LEO AB 22.07.70-GB-035606 (22.07.70-GB-035605)
*B04 E13 +P15 (04.10.79) *BE-770-268 +A23g-03/30*

hewing gum for use as a smoking substitute comprises e usual chewing gum materials (40-80 wt%, esp. 60-75 wt); tobacco alkaloid(s), partic. nicotine or its nontoxic lts, (0.05-2 wt%, as free base); and opt. other additives.

Pref. the nicotine or its salts are complexed with a ecoverable adsorbent, esp. silicic acid. 20. 7. 71 as 36118 (8pp047)

OVE D18 10362T/07 =DS 2136-119
hewing gum contng a tobacco alkaloid - cation resin complex as a moking substitute
LEO AB 22.07.70-GB-035607
*A97 B07 P15 (04.10.79) *NL7110-023 +A23g-03/30*

Chewing gum for use as a smoking substitute comprises he common chewing gum ingredients (15-80 wt.%, esp- 0-75 wt%), tobacco alkaloids, partic. nicotine or its ontoxic salts, (0.05-2 wt.%, calculated as free base), nd opt. other additives.

Pref. the nicotine content is bonded to a cation exchange resin, esp. resins containing COOH groups, such as methacrylic acid polymers, or resins containing SO_3H groups, such as polystyrenesulphonic acid resins, or resins containing $P(=O)(OH)_2$ groups, partic. polystyrenephosphonic acid resins. 20. 7. 71 as 136119 (11pp047)

BADI ★ D18 73687B/41 ★DS 2825-081
De-liming limed hides - using bath contg. neutral ester cpds. which quickly hydrolyse at alkaline pH
BASF AG 08.06.78-DT-825081
(04.10.79) C14c-01/08

Limed hides are delimed by using, as active agent, neutral esters which hydrolyse to ≥90% within 2 hrs., esp. 45 min., in 10% aq. soln. at 25°C and pH 9. Standard conditions are used, e.g. liquor vol. 0-300 wt.% w.r.t. hide, temps. 25-35°C, pH 6-8.7 and time 1-6 hrs.

Overdosage drawbacks, e.g. pptn. of proteins on hide surface, are prevented, On using an ester excess, lime and alkali are neutralised but pH does not fall to isoelectric point of protein, i.e. pH 5. Clean, light hides are obtd. yielding soft leathers which are easily dyed. 8. 6. 78 as 825081 (3pp200)

FARH ★ D18 73722B/41 ★DT 2812-682
Desalting aq. glycolic acid solns. - by adding water-miscible solvent, e.g. acetone or dioxan, and distilling after precipitating sodium chloride
HOECHST AG 23.03.78-DT-812682
E17 (D22) (04.10.79) C07c-51/42 C07c-59/06

NaCl is removed from an aq. glycolic acid, (I), soln. by (a) mixing the soln. with 1-10x its wt. of a water-miscible organic solvent and (b) distilling off the solvent from (I) after separating the pptd. NaCl. The solvent is esp. acetone or 1,4-dioxan. On using strongly diluted (I)-solns, (I) is pref. conc. by evaporating before adding the solvent.

(I) is used in (i) textile-, leather- and fur-processing, (ii) metal cleaning, metal plating and for disinfecting dairy equipment and (iii) for controlling pH in reducing boiler scale formation in heat-exchangers. NaCl can be sepd quantitatively, e.g. > 99% NaCl can be sepd from a 57% aq. (I)-soln. contg. 12-14 wt.% NaCl. 23. 3. 78 as 812682 (7pp200).

FARH ★ D18 73723B/41 ★DT 2812-683
Removing salt from glycolic acid soln. - by heating in presence of immiscible solvent to remove water, then filtering
HOECHST AG 23.03.78-DT-812683
E17 (D22) (04.10.79) C07c-51/42 C07c-59/06

Removal of NaCl from aq. glycolic acid (I) soln. comprises mixing the soln. with 0.5-10 times its wt of a solvent (II) which is insoluble or very sparingly soluble in water. (II) has b. pt above that of water, or that of the water-(II) azeotrope.

The mixt. is then heated at between the b. pt of water (or azeotrope) and the b. pt of (II) until practically all the water is removed. The pptd. NaCl is then removed and finally (I) freed of (II). Specified (II) are diethyl ketone, MIBK and dibutyl ether.

(I) is used in textile, leather and fur processing; in metal cleaning and plating; in disinfection of dairy equipment, and to inhibit scale formation in heat exchangers. Practically quantitative removal of (corrosive) NaCl is achieved simply. 23.3.78 as 812683(8pp1251).

SVYG ★ D18 73808B/41 ★DT 2907-782
Thermal treatment of leather - using thrust roll consisting of rings with common rubber lining (NL 2.10.79)
STATNI VU GOTTWALD 31.03.78-CS-002065
(04.10.79) C14b-01/54

Appts for the continuous thermal treatment of flat flexible materials, esp hides and leather, includes a heated roll and a parallel thrust roll, with an adjustable roll gap. The thrust roll, assembled from separate rings with a rubber lining, can move between guide plates and rests on a drive roll which is supported in arms, hinged to a lever casing at a manually adjustable angle. The thrust is exerted by a power cylinder.

The elastic lining of the thrust roll compensates for any uneven thickness of the hide. The roll gap is easy to adjust. 28.2.79 as 907782(16pp39).

HORW/ ★ D18 73932B/41 ★GB 2017-534
Spraying the whole surface of leather - using an atomising nozzle producing a fine, wide angled spray of hot water
HORWOOD N 29.03.79-GB-011077 (01.04.78-GB-012826)
P42 (10.10.79) B05b-01/34 B05d-07/12

Leather is treated by spraying liq. onto it using an atomising nozzle comprising a body having a circular cross-section swirl chamber in it. Liq. under pressure is fed tangentially to the swirl chamber which has an axial atomising orifice at one end.

Pref. there is a bleed-off passage extending from the end of the swirl chamber remote from the atomising orifice, and the flow of fluid through this can be adjusted. The pref. liq. pressure is 7000-700000Nm^{-2}.

Leather pieces are conveyed along a wire conveyor and are sprayed with atomised heated water from below and above. Pref. the conveyor is in two parts, the wires of one part having spray nozzles between them and the wires of the second part being located intermediate the wires of the second part and also having spray nozzles positioned between them. The whole surface of the leather piece is sprayed. 29.3.79 as 011077 (5pp295)

SEIT ★ D18 74575B/41 ★J5 4113-401
Tanned natural leather mfr. - by treating in urotropin soln. and with chromate salt soln.
SEITETSU CHEM IND KK 23.02.78-JA-020517
E13 (05.09.79) C14c-03/06

In tanning natural leather, the natural leather is treated with a soln. contg. urotropin in an amt. of 2 - 10 pts.wt. proportional to 100 pts.wt. of the natural leather and another soln. contg. the chromate salt in an amt. of 0.1 - 6.0 pts.wt. proportional to 100 pts.wt. of the natural leather.

The treated natural leather contains non-denatured collagen and it has soft touch and a good elasticity. 23.2.78 as 020517 (9pp15).

SEIT ★ D18 74576B/41 ★J5 4113-402
Tanning natural leather using chromate salt soln. - with acid leaching effected with soln. of sodium sulphate and sodium chloride obtd. from flue gas washing waste
SEITETSU CHEM IND KK 24.02.78-JA-021224
E34 (05.09.79) C14c-03/06

The process comprises tanning the natural leather with chromate salt, and acid leaching with a soln. contg. a solid salt, the soln. contg. 6 - 10 wt. pts. of the solid salt in proportion to 100 wt. pts. of the natural leather. The solid salt consists of 25 wt.% of Na_2SO_4, 72 wt.% of NaC l and the balance other solid impurities.

The solid salt is collected from an exhaust soln. which is produced by rinsing a flue gas of city waste combustion furnace with water. The flue gas is rinsed with an aqueous solution contg. NaOH. By means of ''Ferrite Method'', heavy metal components are removed from the resulting rinsing soln. and by a heating, the solid salt having required compsn. is obtd..

The treated natural leather contains non-denatured collagen and has a soft tangibility and a superior elastic nature. 24.2.78 as 021224 (3pp15).

KAWA/ ★ D18 74634B/41 ★J7 9028-441
Treating leather with di alkylamino-2-butenyl sulphonate - in soln. contg. allylamide, to remove unpleasant odour and impart softness and antistaticity
KAWAZOE A 03.12.71-JA-097985
E16 (17.09.79) C14c-11

Method comprises washing leather, after being tanned, with aq. soln. of dialkylamino-2-butenylshophonate and allylamide. The soln. is used at conc. 10-150 ppm. The treatment effectively eliminates unpleasant odour of leather and provides soft feel and antistatic property. 3.12.71 as 097985, C14c-11/00 (17.9.79) KAWAZOE A (2pp83) (J4 8061601)

VOLG= ★ D18 74859B/41 ★SU -642-296
Greasing base for treatment of leather - contains ethyl ester of high molecular acid and surfactant having sulpho gps.
VOLGA DON SURFACTAN 16.02.77-SU-453745
E17 (15.01.79) C07c-67/08 C07c-69/24 C14c-09/02

Prepn. of greasing base for treatment of leather contg. methyl ester of high molecular acids and surface-active material contg. Sulpho gas is based on treating 18-23C fatty acids with H_2SO_4 and MeOH at 120-125°C. The process uses molar ratio fatty acid: MeOH = 1:3-5 and 1.5-8% H_2SO_4 on wt. fatty acid to give reaction mixt. acid no. 10-25 mg KOH/g. Subsequent neutralisation is by NaOH at 60-70°C.

The prod. has I_2 no. 10-15g I_2/100g, and contains (wt. %): Na salt 1-5; fatty acid 1-8; synthetic fatty acid ethyl ester 74-76; water and Na_2SO_4 to 100.
Drozdov, A.S., Volkova, A.D., Didenko, Z.V. et al. Bul 2/15.1.79. 16.2.77. as 453745 (2pp114)

KRUC/ D18 07461Y/05 =US 4169-706
Cleaning poultry feathers with chlorinated hydrocarbons - with reduced cost and without polluting environment with waste water
KRUCHEN E (KRUC-) 26.03.76-DT-612589 (18.07.75-DT-532158)
*Q39 (02.10.79) *BE-844-190 +D06b-09/06 D06m-19*

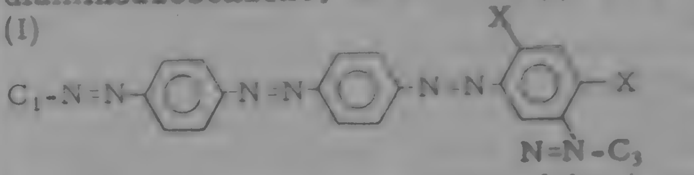
Poultry feathers are cleaned by washing the feathers using a chlorinated hydrocarbon liq.; centrifugally sepg. the feathers from the liq.; blowing the feathers to a drying chamber, much larger than the washing chamber, and drying the feathers at temp. up to 130°C; blowing the feathers to a separate dust removing appts.; and blowing the feathers in the appts. to separate the dust. The cleaning liq. is recycled using distn. to recover animal fats.

The feathers are cleaned without becoming twisted or clotted in lumps. 17.11.77 as 852301 (+14.6.76-US-695474) (5pp1376)

UGIN D18 75710W/46 =US 4169-831
Brown water soluble tris- and tetrakis-azo dyes - for differentl
tanned leathers
UGINE KUHLMANN 25.04.74-FR-014388
*E21 (02.10.79) *BE-828-352 C09b-31/24 D06p-03/32*

A water-soluble tetrakisazo dyestuff derived from 4,4'-diaminoazobenzene, of formula (I) is new. In (I), C_1 is eth acetylacetate-2-yl, 1-phenyl-3-methyl-4-yl-5-pyrazolone contg a 3' or 4'-sulphonic acid substd. or a 2',5'-sulphonic acid disubstd. benzene nucleus and 0-2 Cl atoms, 1-(4'-sulphophenyl)-4-yl -3-carboxy-5-pyrazolone, acetoacetanilide-2-yl, phenolyl, 1,3-dihydroxybenzene-yl, 1,3-diaminobenzene-yl, 2,4 diaminotoluene-yl or 1-aminonaphthalene-yl-6- or 7-sulpho.

(I)



C_3 is a Ph substd. by a 3'- or 4'-sulphonic acid, disubstd. by 2',5'-sulphonic acid gps., 2'-sulphonic acid and 4'-methyl gps., or 2'-chloro-5'-sulphonic acid gps. X is -OH or $-NH_2$. Each of C_1 and C_3 has 1-2 sulphonic acid gps. C_1 is a residue of a coupling component C_1H and C_3 is a residue of a diazotisable amine C_3NH_2.

The dyestuffs prepd. are esp. suitable for dyeing leathers from different tanning processes. 14.11.77 as 851312 Div ex 4081437 (+21.4.75-US-569729) (3pp931)

SEIT ★ D18 75275B/41 ★WP 7900-71
Tanning rawhide, with addition of urotropin to pickling bath - t facilitate pH adjustment and chrome coupling in subsequen tanning bath
SEITETSU KAGAKU KK (OKAB/) 22.01.79-JA-006763 (23.02.78-JA-020517)
E13 (04.10.79) C14c-03/06
D/S: N(BR, US) + E(CH, DT, GB, FR, SW).

In a rawhide tanning process, prepared rawhide is pickled at 15-40°C in the presence of urotropin, preferably introduced in a later stage of the pickling process, and is then chrome tanned.

The pH value of the tanning bath may be easily adjusted, the coupling of the rawhide with basic chrome salts may be increased and the amt. of residual chromium in the waste liquid may be minimised.
21.2.79 as JA0041 (21pp1412)
(J) ISR: 1 Journal Reference

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

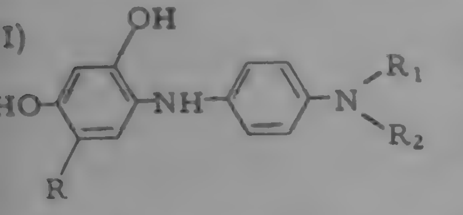
REA ★ D21 73614B/41 ★BE-875-338

,4-Di:hydroxy-4'-amino-di:phenylamine cpds. - are colour recursors used in hair colouring and hair setting compsns.

L'OREAL SA 06.04.78-FR-010209

E14 (E13 E24) (05.10.79) A61k C07c C07d

The new title cpds. are of formula (I) (in which R_1, R_2 and he N atom are morpholino or piperidino and R is H, or R_1 s H, R_2 is furfuryl or methoxyethyl and R is H or methyl) nd their acid salts. The cpds. are used in tinctorial compsns. for keratinic fibres, esp. human hair.



(I) are used as colour precursor in oxidn. dyeing, and in hair setting lotions. They They are prepd. by anaerobic reaction of trihydroxy-benzene or toluene with the appropriate p-phenylenediamine deriv.

5.4.79 as 875338 (26pp597)

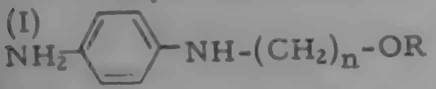
OREA ★ D21 73615B/41 ★BE-875-339

Substd. alkoxyalkyl-para-phenylene:di:amine cpds. - are oxidn. dyes used in hair colouring compsns.

L'OREAL SA 06.04.78-FR-010214

E24 (05.10.79) A61k C07c

The new title cpds. are of formula (I) (in which R is substd 1-4C alkyl; and n is 2-3) and their acid salts. The cpds.



are used in tinctorial compsns. for keratinic fibres, partic. human hair, by applying at ambient temp. for 5-30 mins, rinsing, shampooing, washing and drying.

The cpds. are used as oxidn. dyes. They are harmless and the colours obtd. have good stability (I). are prepd. from p-nitro-fluorobenzene and the appropriate amine followed by reduction of the nitro gp. in the p-nitroamino obtd. 5.4.79 as 875339 (22pp597)

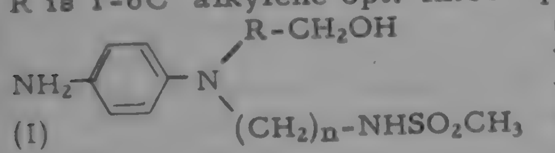
OREA ★ D21 73616B/41 ★BE-875-340

(N)-Hydroxyalkyl-(N)-mesyl:aminoalkyl-para phenylene:di:amine cpds. - are oxidn. dyes used in hair colouring compsns. to give green shades

L'OREAL SA 06.04.78-FR-010275

E34 (05.10.79) A61k C07c

The nre title cpds. are of formula (I) (in which n is 2-6; R is 1-6C alkylene opt. interrupted by O atoms and opt.



substd. by $\geq$1 OH gp.) and their acid salts. They are used in tinctorial compsns. for keratinic fibres, pref. human hair, together with an axidising soln.

The cpds. enable prodn. of dark green shades ranging from bronzy green to bottle green. The colours have good stability to light, weather and washing. 5.4.79 as 875340 (22pp597)

OREA ★ D21 73617B/41 ★BE-875-341

Two/part hair colouring using oxidn. dyes - with a mercaptan in first part, then colour development with oxidising compsn.

L'OREAL SA 06.04.78-FR-010276

A96 E24 (05.10.79) A61k D06p

The dyeing of keratinic fibres, partic. hair, comprises app applying a 1st compsn. contg. $\geq$1 mercaptan in amts. insufficient to degrade the hair, and without intermediate rinsing, colouring the hair by development of colourants selected from oxidn. colour precursor of the para type, N, N'-diaryl alkylenediamines, diphenylamines, polyhydroxybenzenes, polyhydroxynaphthalenes, polyaminobenzene, polyaminophenols, polyamino-polyhydroxy-benzene , opt. associated with couplers, by means of an oxidising compsn

Pref., an oxidisable colourant is applied with the mercaptan at the 1st stage, and an oxidising compsn. is applied at the 2nd stage. A compsn. for colouring keratinic fibres contains $\geq$1 mercaptan in an amt. of 1-5% (to inhibit colour development) and oxidisable colourant(s).

The mercaptans inhibit colour development and result in deeper and more even colouring, esp. using fast oxidn. dyes which can develop in the air. 5.4.79 as 875341 (44pp

OREA ★ D21 73618B/41 ★BE-875-342

Two/part hair colouration using oxidn. and direct dyes - to obtain best results for each dye type

L'OREAL SA 06.04.78-FR-010277

E24 (05.10.79) A61k D06p

Colouration of keratinic fibres comprises first treating them with a compsn. of pH 7-13 and then without rinsing applying a 2nd compsn. of pH < 8 and pref. acid contg. a direct colour from nitro-benzene, anthraquinone, triphenylmethane, azo, metalled, xanthene, and acridine dyes and polymeric dyes.

A further embodiment comprises using a 1st compsn. of pH <8 contg. para type oxidn. colour precursors on w which the amino gp. is sec. on tert. or if prim. the aromatic ring contains $\geq$2 substituents. The pH of the 2nd compsn. is such that together with the 1st, the pH is > 8. In another embodiment the direct dyes in the 1st compsn. of below pH 8 are pptd. by the 2nd compsn. above pH 8.

The process is pref. for hair colouring. It enables max colour value from direct and oxidn. dyes by the two part application which is not generally obtd. when both types of dye are used together. 5.4.79 as 875342 (39pp597)

OREA ★ D21 73619B/41 ★BE-875-343

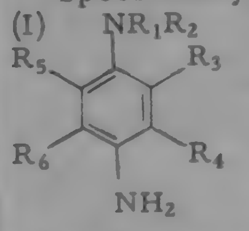
Oxidation dye compsns. for hair dyeing - contg. ortho-and para-type precursors

L'OREAL SA 06.04.78-FR-010278

E24 (05.10.79) A61k C09b D06p

Compsns. for dyeing keratinic fibres (esp. human hair) are claimed. The compsns. contain only ortho- and para-type oxidn.-dye precursors. At least one of the precursors is (a) a p-phenylenediamine deriv. (I) or (b) an N,N'-diaryl-alkylenediamine (II) in which the aryl gps. are p-substd. by OH, NH_2 or alkylamino and the amino gps. are opt. substd. by alkyl, hydroxyalkyl or aminoalkyl, or a salt of (I) or (II). At least one other of the precursors is an o-aminophenol, o-diphenol or o-phenylenediamine in which the ring is opt. substd. (e.g. by lower alkyl or alkoxy) except in the 4 and 5 posns. w.r.t. the OH gps. and one of the amino gps. is opt. substd. by alkyl, hydroxy-alkyl or alkoxyalkyl, or a salt thereof.

Specifically, cpds. (I) are of formula (where (i) when R_1



and R_2 are both H, $\geq$ 2 of R_3-$_6$ are lower alkyl or alkoxy; (ii) when one of R_1 and R_2 is other than H it can be alkyl interrupted t by O and substd. by OH, or alkyl substd. by acylamino, ureido, mesylamino, furfuryl or sulphonamido opt. substd. by 1 or 2 lower alkyl gps., or it can be lower alkyl when the aromatic ring is unsubstd. or substd by a halogen atom, or one of R_1 and R_2 is lower alkyl opt. substd. by OH, alkoxy, furfuryl or tetrahydrofurfuryl, R_3 is lower alkyl, halogen or lower alkoxy, R_4 is H or halogen when R_3 is H, and R_5 and R_6 are H; (iii) when R_1 and R_2 are both other than H, R_1 can be hydroxyalkyl or alkyl and R_2 can be hydroxyalkyl or alkyl substd. by acylamino, mesylamino, carbamoyl, sulphonamido or piperidino, or NR_1R_2 can be piperidino or morpholino opt. substd. by lower alky alkyl or halogen, and when R_1 and R_2 are both alkyl, R_4 is halogen, alkyl or alkoxy and R_3, R_5 and R_6 are H). Also claimed are certain new trinuclear cpds. formed by oxidn. of combinations of ortho- and para-type precursors.

The combinations of ortho- and para-type precursors produce different shades from those obtd. with either component alone, and the shades have better wash fastness. 5.4.79 as 875343 (62pp367)

HENK D21 73611S/46 =DS 2024-051
Cosmetic compsns contg superfatting agents
HENKEL KG AUF AKTIEN 16.05.70-DT-024051
*(D23) (04.10.79) *BE-767-213 A61k-07*

The interesterification prod. of the addn. prod. of glycerine and 4-20 mols. ethylene oxider per mol. glycerine with a 8-18C fatty acid is used as a relubricating agent in cosmetic preparations such as shampoos and toilet soaps.

The intersterification prod. contains 1-2 mols fatty acid per mol addn. prod. The fatty acid may be tollow fatty acids, coconut fatty acids, etc. 16.5.70 as 024051 (7pp068)

KAOS D21 05753Y/04 =DS 2641-206
Transparent, high viscosity liq. shampoo - contg. an ethoxylated alcohol and an alkylsulphate alkylolamine salt
KAO SOAP KK 16.09.75-JA-111860
*E17 (E16) (04.10.79) *BE-846-202 C11d-01/83*

A transparent, highly viscous, liquid hair shampoo comprises (a) 1-10 wt.% of $\geqslant$1 cpd. of formula $R_1R_2CH\text{-}O\text{-}(CH_2CH_2O)_nH$ (where R_1 is 8-14C alkyl, R_2 is H or 1-7C alkyl and n for 0-10 wt.% of component A is 0-1, for 90-100 wt.% of component A is 2-4 (50-100 wt% of A is 3) and for 0-10 wt.% of component A is 5 or more), (b) 5-40 wt.% of an 11-15C alkylsulphate 2-3C alkylolamine salt and (c) water.

The shampoo has good cleansing and conditioning properties. 14.9.76 as 641206 (5pp068)

CYTH- ★ D21 73890B/41 ★FR 2413-093
Slimming products contg. extract of Centella asiatica - used as lotion or cream applied locally and externally
CYTHO SARL 29.12.77-FR-039623
(31.08.79) A61k-35/78

The product is pref. applied as a lotion or a cream esp. contg. a 3-15% 70° alcoholic tincture of Centella Asiatica (I) equiv. to 10% of dry (I) extract. It also pref. contains volatile substances aiding penetration esp. camphor and menthol in amt. 0.5-5%. The products pref. also contain sodium and calcium chlorides. The lotion is pref. diluted with water immediately before use and applied with cloth or tissue. The cream is applied directly.

The products are effective, easy to apply and simultaneously made the sub-cutaneous tissues firmer. 29.12.77 as039623 (5pp597)

MIYA/ ★ D21 74115B/41 ★J5 4110-335
Face powder contg. lecithin and opt. organic acid - is easy to apply and gives water repellant coating film free of glossiness
MIYAZOE T 17.02.78-JA-016621
E19 (29.08.79) A61k-07/02

Cosmetics contain lecithin and opt. water soluble organic acid. They adhere well to a wet puff and can be spread on the face easily. The coating film is water repellent and stable. Water soluble organic acid not only prevents the decomposition of lecithin with alkali, but also adjusts the pH of the cosmetics to the proper range. Thus the cosmetics are safe and nontoxic and show excellent protecting effect on the skin. Oily glossiness of the coating film is suppressed.

The major components of makeup cosmetics are talc and/or mica and they have usually pH 8-9. While skin has pH ca. 6.5 and with water soluble organic acid (e.g. citric acid, tartaric acid, malic acid, etc.) pH of the makeup cosmetics can be brought to ca. 6.5. Practically lecithin is combined 0.5-3 w/w% pref. ca. 1 w/w% and water soluble organic acid is combined ca. 2 w/w% on the make up cosmetics. 17.2.78 as 016621 (2pp5).

AKIY/ ★ D21 74116B/41 ★J5 4110-336
Prepn. of skin protective agent for use in cosmetics - by treating collagen with protease and emulsifying resulting athero-collagen in water and oil or fat
AKIYAMA T 16.02.78-JA-016750
(29.08.79) A61k-07

The method comprises treating collagen with protease for digestion-removing the theropeptides which are present at the ends of collagen molecules and emulsifying thus obtd. athero-collagen free of antigenic activity, in a mixt. of water and oil or fat.

Skin cosmetics which show excellent skin-treating effect without harmful side effects such as allergy, etc., can be obtained. Atherocollagen is also useful as the material for artificial internal organs. The effect of atherocollagen on skin can be promoted by combining mucopolysaccharide and the skin cosmetics are favourably mfd. in oil-in-water type emulsion. 16.2.78 as 016750 (4pp5).

NONO- ★ D21 74117B/41 ★J5 4110-337
Hair dye contg. tyrosine and tyrosinase - which on mixing and oxidn. give dopa-quinone which is condensed to give natural colourant, melanin
NONOGAWA SHOJI YG 14.02.78-JA-015801
E14 (D16) (29.08.79) A61k-07/13

Hair dye is composed of a first compsn. contg. tyrosine and a second compsn. contg. tyrosinase.

Tyrosinase itself has no chromophore in its structure and is oxidised with tyrosinase to dopa-quinone, which is condensed or polymerised repeatedly to form melanin. Thus formed melanin is the same pigment present in human body and hair can be dyed with it in natural colour safely.

Conventionally hair dyes have been composed of synthetic dye or plant pigment and in dyeing hair with those hair dyes the use of acid, alkali or oxidant has been required for the colour development. Further their colour has been unnatural and their safety has not been confirmed satisfactorily. This prod. is free of these problems. Practically crystalline tyrosinase should be dissolved in aq. buffer solution of pH 6-7 directly before the dyeing for preventing the loss of the enzymic activity. 14.2.78 as 015801 (3pp5).

NAKA/ ★ D21 74161B/41 ★J5 4110-660
Prodn. of piled or granulated material for applying cosmetics - by applying soln. or emulsion of blocked isocyanate cpd. to piles or granules and/or base material and heat-treating to improve adhesion
NAKAMURA K 20.02.78-JA-018281
A96 P24 (A25) (30.08.79) A46d-01

Piled or granulated material suitable for use as e.g. powder puff in cosmetics, exhibiting excellent anchoring effect (of piles or granules) even in such case that the layer of adhesive is very thin, is produced by previously adhering soln. or emulsion of block isocyanate cpd. to piles or granules to be set-up, and/or applying an adhesive layer contg. the block isocyanate cpd. on the surface of base material, or followed by heat treatment so as to improve adhesive strength between the piles (or granules) and the base material.

The isocyanate cpds. are e.g. diphenylmethanediisocyanate, hexamethylenediiosocyanate, 2,2,4-trimethylhexamethylenediisocyanate, dicyclohexylmethanediisocyanate etc. and the blocking agents are, e.g. MeOH, EtOH, ethyleneimine, n-pentanol, iso-propyl alcohol, phenol, p-nitrophenol, m-cresol, acetylacetone, ethyl acetoacetate and ε-caprolactam etc., 20.2.78 as 018281 (3pp34).

KANE ★ D21 74503B/41 ★J5 4112-906
Powdered shampoo compsn. - comprising zinc sebacate, poly:ol(s) and alkali salt of alcohol sulphate ester
KANEBO KK 23.02.78-JA-020151
A96 E12 (E17) (04.09.79) A61k-07/06 C11d-10/02

Compsn. consists of 1 - 10 wt.% zinc sebacate powder of max. particle size 10μ and mean particle size $< 3\mu$. 1 - 10 wt.% of $\geqslant$1 polyol selected from propylene-glycol, 1,3-butane diol and glycerin and 77 - 95 wt.% alkali salt of higher alcohol sulphate ester $ROSO_3M$ (where R is alkyl or alkenyl of 10 - 18C, M is Na or K).

Pref. zinc sebacate is used in amt. of 1 - 10 wt.% (pref. 3 - 7 wt.%). The polyol is used in amt. 1 - 10 wt.% (3 - 7 wt.%). The sulphate is pref. used in amt. 77 - 95 wt.% (80 - 90 wt.%).

The compsn. is storage stable for long periods without forming a paste or cake. It is easily dispersible or sol. in water, and does not stimulate the skin. It has high cleaning and deodorisation power. 23.2.78 as 020151 pp170).

AWA- D21 26417W/16 = J7 9028-846
atty acid amidoethylpolyoxyethylenyl phosphates for cosmetic oaps
KAWAKEN FINE CHEMIC 10.11.72-JA-112678
*E11 (19.09.79) *J49072-305 +C11d-09/34*

osmetic soaps are prepd. with $RNHCH_2CH(R_1)(OCH_2-CH_2)_n$ $P(O)(OX)OY$ (R = 9-20C acyl, R_1 = H, or Me n = 0-20, X nd Y = $RNCH_2CH(R_1)(OCH_2CH_2)_n$, H, Na, K, NH_4 or alkanol amine) and satd. or unsatd. fatty acid Na salts. These oaps have better rinsing properties than conventional oaps.

In an example fatty acid monoisopropanolamide ethoxy- ate 30 pts. and P_2O_5 2.5 pts. were reacted, and the prod- ct was combined with triethanolamine phosphate and a asic soap material and made into soap cakes. 10.11.72 s 112678 C11d-9/34 (19.9.79) KAWAKEN FINE CHEM. 4pp) (J4 7112678)

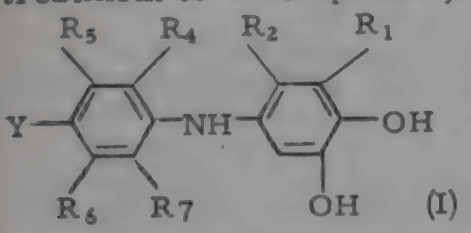
NATT D21 23268V/13 = NL-161-357
Hair setting compsns. - comprising solns. of sulphonated styrene (co)poly-mers
NAT STARCH & CHEM CORP 13.09.72-US-288530
*A96 (A13) (17.09.79) *DT2340-590 A61k-07/11*

Hair-treating prepn. comprises a 0.1-10 wt.% aq. soln. or aq. alcoholic soln. of a sulphonated polystyrene or co-polymer of styrene and an olefinically unsatd. monomer, of mol. wt. $6000-7\times10^6$. A salt of the polymer may also be used. The hair is treated with the soln. shaped and arranged, and dried.

Pref. a Na salt of sulphonated polystyrene of mol. wt. $8\times10^4-5\times10^5$, or a sulphonated styrene-methylmethacrylate copolymer or salt is used. The soln. can be used in the form of a rapid-breaking foam, or if the sulphonated polymer has a mol. wt. $\ngtr 10^5$ the soln. can be used as an aerosol spray. 23.8.73 as 011607 (7pp913).

OREA D21 13680S/07 = NL-161-490
Leuco derivs of indoanilines and indophenols - for dyeing keratinic fibres
L'OREAL SA 11.08.69-LU-059265
*A14 E14 (A96 E24) (17.09.79) *BE-754-649 A61k-07/13 C07c-91/42 C07c-103/44 C07c-127/19 C09b-57 +C07c-93/14*

Hair colouring prepn. for use with living hair contains a leuco dye of formula (I) as an aq. (alcoholic) soln. The prepn. can give even colouration overall or partial colouration, with a striking shine without requiring after-treatment to develop the dye.



(I)

In the formula, Y is OH or NH_2; R_{1-3} are H, halo, 1-4C alkyl or alkoxy, ureido or 1-4 C acylamino, and R_2 is also $-NHR_3$, R_3 is H, 1-4C (hydroxy)alkyl or carbamoylmethyl; R_{4-7} are H, and 1-4C alkyl and alkoxy. The acid addn. salts of (I) can also be used. Opt. the prepn. contains cosmetic resin(s). If the soln. contains no resin, the cpds. 4-hydroxy-4'-amino-3'-methyl diphenylamine and 4-hydroxy-4'-aminodiphenylamine are specifically excluded.

Secondary claim specifically excludes the following combinations: (1) R_2 is $-NHR_3$ and R_3 is H, (2) Y is OH, and R_2 is H, halo, 1-4C alkyl or alkoxy. (3) Y is NH_2, and $\geqslant 2$ of R_{1-3} are H, and (4) Y is NH_2 and R_2, R_{4-7} are H. 10.8.70 as 011768 (11pp913).

CHIN= ★ D21 74908B/41 ★SU-642-346
Nail lacquer and facial cosmetic cleanser - contg. acetone, ethanol poly-methyl or ethyl siloxane, butyl phthalate and acetate, castor oil, and water
CHEM IND RES PLAN 16.08.77-SU-520703
A96 (15.01.79) C09d-09

Cleansing compsn. for removing nail lacquer or facial cosmetics, contain acetone, esters and oil.

The defatting effect is minimised, nail brightness is improved and the product is more stable, if the following formulation is used (in wt.%): acetone 45-50, butyl acetate 25-35, dibutyl phthalate 0.8-1.2, castor oil 0.5-1.5, polymethylsiloxane or polyethylsiloxane 0.5-1.0, alcohol 1-3, remainder-water.

Uritskaya, V.Ya., Golovanov, N.G., Khodakovskaya, L.D. et al. Bul. 2/15.1.79. 16.8.77. as 520703 (2pp835)

STOM= ★ D21 75022B/41 ★SU-643-153
Material for modelling dentures - contg. polypropylene, mineral filler and polyethylene terephthalate
STOMATOLOGY RES (DORO=) 18.05.77-SU-477701
A96 P32 (A17 A23) (27.01.79) A61c-09

The mixt. contains (in wt.%): polypropylene (I) 0.01-1.0, mineral filler (II) 0.01-0.5 and polyethylene terephthalate (III) the rest.

It is used as a modelling material, for use in the mfr. of dentures.

Addn. of I improves ability to reproduce fine detail and to retain the form.
Kalamkarov, Kh.A., Kharchenko, S.V., Pashinin, B.P. et al. Bul. 3/25.1.79. 18.5.77. as 477701 (2pp124)

YARD D21 09316Y/06 = US 4169-469
Splint for immobilising damaged limb - having plastic body with insulating and protective layers on opposing faces
YARDNEY CO (YARD-) 29.07.75-US-600082 (12.01.77-US-758786)
*A96 P32 +P34 P73 (02.10.79) *BE-844-687 A61f-05/04*

Orthopedic device comprises a plastic sheet of thickness 50-120 mils, flexural strength 3000-14000 psi. flexural modulus $0.5\times10^5-7\times10^5$ psi, and Vicat softening point 60-80°C. An insulating layer having thickness $\geqslant$10 mils and heat transfer coefft. is provided on one side of the sheet and a protective layer is provided on the other side of the sheet. The sheet is shapeable to its final contours by heating to 120-400°F at the protective layer.

The insulating layer may comprise plastic foam or fabric. Device is used to support, posn., immobilise and/or restrain parts of the body. It is light weight, is easily formed without discomfort to the patient and is non-irritating. 10.1.78 as 868338 C.i.p. 4000741 (+12.1.77-US-758786) (12pp945)

SYNT ★ D21 75135B/41 ★US 4169-703
Mutagen free oxidative red hair dye - contg. 1-hydroxy-naphthalene, 4-aminophenol, and opt. modifiers and couplers
SYNTEX (USA) INC 03.08.78-US-930831
E14 (02.10.79) A61k-07/13

A compsn. which dyes keratinous fibres red in combination with an oxidising agent comprises 0.1-1.5 pts. α-hydroxy-naphthalene, 0.5-3.5 pts. p-aminophenol, 0.0-10 pts. suitable modifier, 0.0-5pts. of a suitable coupler, and sufficient of a carrier to make 100 pts. all pts. by wt.

The compsn. is esp. useful for human hair. It is free from mutagenic phenylene diamines, 2,4-diaminoanisole or nitro cpds. The modifier is hydroxy aryl cpd. esp. a mixt. of N-(p-hydroxyphenyl)glycine, phloroglucinol and pyrocatechol. The coupler when present is pref. m-aminophenol, p-methylaminophenol sulphate and/or p-aminodiphenylamine sulphate. 3.8.78 as 930831 (5pp955)

SYNT ★ D21 75136B/41 ★US 4169-704
Mutagen-free oxidative blonde hair dye - contg. 3-aminophenol, 4-aminophenol, 4-methyl aminophenol and opt. couplers and modifiers
SYNTEX (USA) INC 03.08.78-US-930830
E14 (02.10.79) A61k-07/13

Compsn. which dyes keratinous fibres blonde in combination with an oxidising agent comprises 0.01-1 pts. m-aminophenol, 0.01-1pts. p-aminophenol, 0.1-1.5 pts. p-methylaminophenol or a suitable acid addn. salt of it, 0-5 pts. of a modifier, and 0-2 pts. of a coupler, and sufficient of a carrier to make 100 pts. all pts. by wt..

Compsn. is esp. useful for human hair. It is free of mutagenic phenylene diamines, 2,4-diaminoanisole or nitro cpds. 3.8.78 as 930830 (5pp955)

DAHL/ ★ D21 75186B/41 ★US 4169-796
Forming a dispersion of di:calcium phosphate in sodium montmorillonite - by mixing them with demineralised water and heating
DAHLIN C W 01.02.78-US-874140
B06 E33 L02 (B07) (02.10.79) C04b-31/20 C09k-03

A dispersion of dicalcium phosphate (I) in sodium montmorillonite clay (II) is formed by mixing (by wt.) 2 pts. (II) with 1.5 pts. (I) and 72.73% demineralised water, and dry heating the mixt. at about 300°F until it no longer contains any water.

The dispersion can be used in a shaving lotion, for polishing dentures, as an oil soap for body cleansing, for the liq. dispersion of various minerals for medicinal purposes and to improve the stability and dispersion of lotions and ointments. 1.2.78 as 874140 (3pp476)

BLEN D21 69148A/39 =US 4169-885

Filled capsules or tablets for dental or mouth-care - comprising casing of hydrophilic prophylactic material and core contg. lipophilic cpd.

BLENDAX WERKE SCHNEIDER 19.03.77-DT-712161

*B07 (B05) (02.10.79) *DT2712-161 +A61k-09/20*

A filled sucking tablet prepn. is produced for dental and oral hygiene, comprising a water-soluble candy-type outer shell and an inner filling material.

The shell contains a hydrophilic, odontologically active substance which is released as the shell is worn away in the mouth. The active substance is a water-soluble inorganic fluoride, an organic fluoride, a fluorosilicate, a zinc cpd., a phosphoric acid, a complex-forming polycarboxylic acid, a water-soluble inorganic phosphate, a water-soluble phosphoric acid ester of a polyhydric alcohol, a water-soluble antimicrobial agent or their mixts. The inner filling material is a hydrophobic substance, such as natural or synthetic fats or waxes, phospholipids, abietic and or its salts, cholesterol, lanosterol, a fatty alcohol, a long-chain fatty acid or amine, a peptide, a lipoprotein, a lipoproteic acid, a silicone oil or their mixts.

The compsn. prepd. is in the form of a capsule or sweet able to prevent or reduce the formation of dental plaque and/or tartar. 14.3.78 as 886469 (3pp931)

TAKI/ ★ D21 75273B/41 ★ WP 7900-710

Sheet of starch material for fixing dentures - is placed between denture and alveolar ridge to permit easy rapid fixing

TAKAHASHI K 20.02.78-JA-U19772

P32 (04.10.79) A61c-13/22

D/S: N(SU, US) + E(DT, FR, GB).

A sheet, suitably 0.01-0.05 mm thick, which has approximately the same shape as and may be slightly larger than the base of a denture, is placed on the denture base prior to putting the denture in the mouth. The sheet is made of starch or starch together with agar-agar and/or gelatin, and is dissolved slightly by salival juices and helps secure the denture in the mouth.

The denture fixing sheet is applied much more rapidly than adhesive cream, etc.

9.2.79 as JA0030 (11pp1412)

(J) ISR: J53095598, JA1501634, J52052898.

See Also

D13 DS 2718797 D23 NL 7902213

D22 : BANDAGES ; DRESSINGS

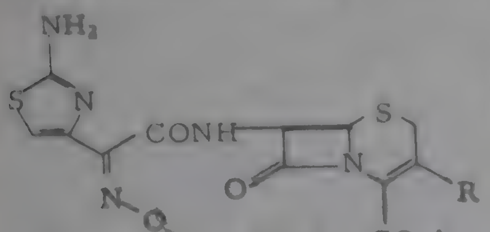
ROUS ★ D22 73624B/41 ★ BE -875-379

Amino:thiazolyl-acetamido cephalosporin derivs. - useful as antibiotics and disinfectants

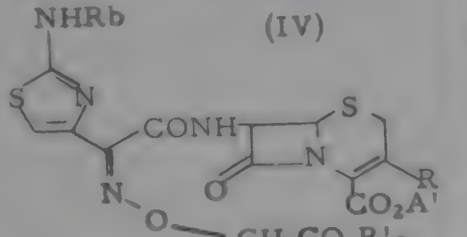
ROUSSEL UCLAF 07.04.78-FR-010387

B02 (08.10.79) A61k C07d

Cephalosporins of formula (I), syn isomers, and their salts with organic or inorganic acids are new (R is 1-3C alkyl or CH_2SR_1. A is H, an equiv. of an alkali or alkaline earth metal, Mg, NH_4 or amine base, or is an easily-cleaved ester gp. A_1 is as A or 1-3C alkyl, R_1 is 5-6 membered heterocycle with 1-4 S, O or N atoms and may be substd.).



(I)



(IV)

Also new are intermediates (IV) (R'_a is 1-3C alkyl or easily-cleaved ester gp. Rb is amino-protecting gp. A' is H or easily-cleaved ester gp.).

(I) are antibiotics effective against Gram. neg. or pos. species, esp. penicillin-resistant staphylococci, coliforms, Klebsiella, Proteus and Salmonella. They are useful therapeutically and for sterilising surgical instruments 6.4.79 as 875379 (36pp1251)

COLG ★ D22 73650B/41 ★ BE -876-791

Throwaway sanitary products e.g. napkin - comprising impermeable backing sheet, absorbent wad, and upper sheet of nonwoven water repellent material

COLGATE PALMOLIVE CO 09.06.78-US-913998

A96 F07 P21 P32 (01.10.79) A41b A61f

Throwaway prod., such as a nappy, sanitary towel or a protecting slip, comprises the usual, impermeable backing sheet, an absorbent was and an upper sheet of a nonwoven, water repelling material, such as polypropylene or polyethylene fibres. This upper layer is applied to the wad by linear stamping with adhesives or by hot sealing, so that the liq. can enter the wad immediately and does not remain on the surface for any length of time.

The upper sheet is applied so that spaced, parallel, elevated ridges are formed with channels in between for collecting the liq. Rapid penetration of the liq. is achieved whilst retaining only a small quantity and without any rewetting by the liq. 6.6.79 as 876791 (9pp519)

COLG ★ D22 73668B/41 ★ BE -876-865

Throwaway sanitary articles - with upper, nonwoven sheet of water-repellent material which is coated with a surfactant

COLGATE PALMOLIVE CO 08.06.78-US-913714

A96 F07 P21 P32 (01.10.79) A41b A61f

Upper layer, for prods. such as nappies and sanitary towels to be thrown away after use, when made of a water-repellent material is not altogether satisfactory when dealing with a sudden flow of a liq. such as urine.

The new material is permeable to air, repels water, is non-woven and is based on polyamide, polypropylene or polyester. The upper sheet covers a wad of absorbent material resting on a water-impermeable film. The sheet is covered with a non-ionic surface active material, pref. a condensn. prod. of 10 moles of ethylene oxide with octyl phenol to allow of a more rapid penetration of fluid. Only spaced zones are covered by the surfactant either by spraying or by printing in lines.

In the prefd. method of treatment of the upper surface fibrous layer, the surfactant does not entirely penetrate the material but simply acts as a guide to any fluids so that they will penetrate the water-repellent material whilst limiting any flowback. 8.6.79 as 876865 (8pp519)

SUTU D22 88785R/48 = DS 1942-722

Making synthetics yarn soft and ductile

SUTURES INC 28.05.69-US-828495

*A23 E11 F02 +P34 (A27 A96) (04.10.79) *DT1942-722 D02j-01/22 +A61l-17 D02g-03/44*

Surgical sewing thread is produced by hot orientation of previously oriented, entwined or interwoven filament threads. The threads are impregnated with an oil, pref. a silicone oil, before the hot orientation.

The threads are pref. made from polyethylene terephthalate. The threads are pref. cooled after the hot orientation and are subjected to successive bending stress-

s. The bending devices consist of numerous thread uides with sharp edges. The threads are drawn under ension and experience changes of direction of ≥30°C.

Surgical sewing threads, which are less stiff than known ones, can be produced. 22. 8. 69 as 942722 (5pp260)

HOM D22 55213T/35 = DS 2105-672

Jv absorbing 1-phenyl-3-(3-pyridyl)-1,3-propan-diones - used as ight protecting agents in cosmetics, medicines and for paper

THOMAE K GMBH 08.02.71-DT-105672

*B03 E13 P34 Q34 (04.10.79) *DT2105-672 A61k-07/44*

New light protective compsn. contains wide range UV absorbent such as 1-phenyl-3-(3-or 4-pyridyl)propane-1,3-bis(3-pyridyl)propane-1,3-dione, and isopropyl 4-methoxycinnamate as the active components, (0.5-20%, pref. 2-8%), dispersed with the usual carriers and additives in the form of cosmetic or medicinal emulsions, oils, lotions, creams, gels or sprays.

These compsns. are also suitable for protective impregnation of cartons and other packing materials. 8. 2. 71 as 105672 (5pp047)

BIEB/ ★ D22 73738B/41 ★DT 2813-421

Perforated multiple crepe paper and tissue mat assembly - sprayed with antimycotic disinfectant and supported on abrasion-resistant backing

BIEBRACH M 29.03.78-DT-813421

F09 P27 (04.10.79) A47g-27/02

Antimycotic, disinfecting, edge- and surface-perforated multiple crêpe paper and tissue paper mats are made by (i) spraying crêpe papers and tissue strips with antimycotic solns., (ii) superimposing to form several layers and (iii) bonding to one another at the sides of the sheet obtd., using plastic clamps or a water-resistant synthetic fibre thread. The crêpe papers have wt./area 60-90 g/m² and the tissue strips 40-80 g/m² and are kept in bathroom format. They may be sprayed individually or from a roll.

For wet floors and rooms, the mats are provided with a water-and abrasion-resistant backing, by clamping or sewing, using water-resistant material, onto a water- and abrasion-resistant backing, e.g. soda kraft paper, which is smooth on one side and is sprayed with antimycotic disinfectant on both sides.

The mats are used as bathroom-, toilet- and other mats in rooms, etc., frequented by people barefoot, to prevent the spread of fungal foot diseases. The mats can be produced cheaply. 29.3.78 as 813421(8pp200).

ROUS ★ D22 73876B/41 ★DT 2912-829

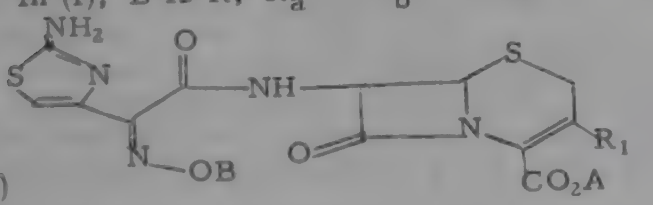
7-thiazolyl-acetamido-cephalosporin oxime derivs. - useful as broad spectrum antibacterials and disinfectants (BE 1.10.79)

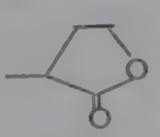
ROUSSEL UCLAF 24.08.78-FR-024563 (31.03.78-FR-009617)

B02 C02 (04.10.79) A61k-31/54 C07d-277/38 C07d-501/20

Cephalosporin oximes of formula (I), in syn isomer form, and their acid salts are new.

In (I), B is R, R_a or R_b R is CSR', COR', CR_4R'', CO_2A'


(I)


(II)

(II) or $(CH_2)_{n'}R_{5j}$ R'=1-4C alkyl or alkoxy, phenyl or $(CH_2)_n NR_2R_3$; n=0-4; R_2 and R_3 = H or 1-4C alkyl or together complete piperidino, morpholine or phthalimido;

A'=H or equiv. of an alkali or alkaline earth metal, Mg, NH_4 or amine base, or an easily-cleaned ester gp; R_4=phenyl, hydroxyethyl or CN; R''=H or 1-4C alkyl; n'=1-4; R_5= 1-4c alkoxy, alkylthio, alkylsulphinyl, alkylsulphonyl, $NR_6 R_7$, CN (if n' ≠ 1), $CSNH_2$, $COHNH_2$ (if n ≠ 1), 4-methyl (sic), 4-amino-1,3-thiazol-2-yl, 1,2,34-tetrazol-5-yl, N_3 or 2-4C acyl; R_6 and R_7 =4 or 1-4C alkyl, or together make phthalimido or 1-pyridinyl; Ra is $(CH_2)_{n'}R_{5a}$ = halo or SAr; Ar=phenyl or 5-6 membened aromatic heterocycl with 1-4 S, N or O atoms; Ar is opt. substd. by ≥ 1 amino, NO_2, 1-4C alkyl or CN. R_6 is $(CH_2)_n$, R_{5b}, where R_{5b} = $NR_{6b} R_{7b}$; R_{6b}+R_{7b} complete an imidazolyl, morpholino or N-(114C alkyl) piperazino; R_1 ≠ Cl, CHzO, 1-5C alkyl, cycloalkyl or alkylthio, CH_2SR_{12}, acetoxymethyl, carbamoyloxyethyl or NHCOAlk; R_{12}=N-contg. heterocycl, 2-4C, 2-oxo (3H)-thiazolin-4-yl carbonyl or 3-methyl-1,2oxazol-5-yl-carbonyl; Alk = 1-4C alkyl; and A=H or an equiv. of an alkali or alkaline earth metal, Mg, NH_4 or amine base; or an easily-cleared ester.

(I) are antibactenals effective against Gram positive and negative species, esp. penicillin-resistant staphylococci, coliforms Klebsiella, Proteus and Salmonella. They can also be used to sterilise surgical instruments. 30. 3. 79 as 912829(296pp1251).

ORIG- D22 15840Y/09 = GB 1553-898

Antimony iodide discharge lamps - for deactivating microorganisms

ORIGINAL HANAU QUAR 07.05.76-DT-620251 (11.08.75-DT-535816)

*L03 R45 +P34 (10.10.79) *NL7608-805 H01j-61/18 +A61l-03 C02b-03/02*

Microorganisms are destroyed or deactivated by subjecting a fluid contg. the microorganisms to UV radiation emitted by a metal-halide discharge lamp contg. Sb as sole metal and I as sole halogen, and contg. Ne or Xe as loading gas.

Pref. the lamp contains 0.049 mg - 0.057 mg I and 0.016 - 0.024 mg Sb per cm³ of burner vol. The lamp is used in a ventilating air dome, as a room disinfecting device or a disinfection dip tank. 4.8.76 as 032383 (5pp)

DERR- ★ D22 73926B/41 ★GB 2017-509

Absorbent pad e.g. for nappy - with creped or folded layers directing moisture towards ends for enhanced absorption

DERRYDOWN DISPOSABL 15.05.79-GB-016819 (17.02.78-GB-006311)

F04 P21 (10.10.79) A41b-13/02

The pad has ≥1 layer promoting passage of moisture along the pad length rather than crosswise so that more moisture will be absorbed by the pad ends. There is pref. a number of such layers, each of crepe paper or of folded or pleated material, with the folds parallel to the longitudinal axis.

Alternatively the layers may be of crepe paper with pleats at right angles to the crinkles, to absorb moisture more readily along the axis parallel to the folds than that parallel to the crinkles, or they may be of woven material with the warp more absorbent than the weft. 15.5.79 as 016819 (5pp1358)

TAMA/ ★ D22 B/41 ★HU T016-997

Cleaning and sterilising stables - using aluminium or iron salts prior to application of conventional sterilising compsn.

TAMASI G 27.12.77-HU-TA1467

E31 P34 (E33) (28.09.79) A61l-01

MITK ★ D22 74022B/41 ★J5 4110-167

Removal of malodorous components from gas - e.g. generated on drying of animal faeces etc., by contacting gas with soln. of hypochlorite at specified temp.

MITSUI TOATSU CHEM INC 17.02.78-JA-016627

J01 (29.08.79) B01d-53/34

Removal of malodorous components in a gas (I), comprises the contacting (I) with a soln. of hypochlorite (II) of 40-95°C. The method is applied to deodorisation of (I), generated by drying of animal-faeces and animal feed, treatment of faeces and urine, etc..

(II) is alkali (earth metal) hypochlorite pref. Na hypochlorite. The conc. of (II) in the soln. should be adjusted to 10-2,000 ppm, e.g. (20-200 ppm), and pH of the soln. should be 8-11, e.g. (9.5-10.5). (I) is scrubbed in contact with (II)-soln. in spray tower, packed tower, etc.. The time for contacting (I) with (II)-solution is ≤ 2 sec.. 17.2.78 as 016627 (6pp42).

KATA- ★ D22 74107B/41 ★J5 4110-322

Antifouling compsn. for use in cooling systems - contains sec. or ttert. fatty amine

KATAYAMA KAGAKU KOG 20.02.78-JA-018799

A60 C03 E16 (29.08.79) A01n-09/20

The compsn. contains secondary or tertiary fatty amine of formula R-NX-CH_3 (I) (where R is 12-18C (un)satd.-straight chain fatty hydrocarbyl; X is H or methyl).

(I) prevents e.g. Mytilus or Balanus from adhering to cooling water system. The growth and adhesion can be prevented by adding a small amt. of (I) to sea water at the time of growth of marine creatures.

Examples of (I) are dodecylmethylamine, hexadecylmethylamine, octadecylmethylamine, dodecyldimethylamine, hexadecyldimethylamine, coconut alkylmethylamine, beef tallow alkylmethylamine, etc.. The amount of (I) added is 0.03-3 ppm based on the volume of sea water. 20.2.78 as 018799 (4pp108).

KATA- ★ D22 74108B/41 ★J5 4110-323

Antifouling agent for cooling water systems, fishing nets etc. - contains N-mono:substd. propylene di:amine or its salt as active component

KATAYAMA KAGAKU KOG 20.02.78-JA-018800

C03 E16 F06 (29.08.79) A01n-09/20

Antifouling agent contains as active component N-mono-substituted propylenediamine of formula $R-NH-(CH_2)_3NH_2$ (where R is 12-18C saturated or unsatd. straight chain fatty hydrocarbon radical) or its salt. The pref. active cpd. is beef tallow alkylpropylenediamine, or coconut alkyl-propylenediamine.

The active cpd. is used for preventing marine creatures such as Mytilus or Blanus from adhering to cooling water system of various factories, fishing net and aquatic construction, by addn. to sea water, e.g. at 0.05-3 ppm. . 20.2.78 as 018800 (4pp108).

NAKA/ ★ D22 74334B/41 ★J5 4111-962

Elastic wiping tool for domestic or medical use - comprises a water-absorbing starch polyacrylonitrile graft copolymer material coated with foamed elastic sponge, e.g. polyurethane

NAKAMURA K 20.02.78-JA-018280

A84 P24 (A11 A14 A96) (01.09.79) A45d-33/34

The tool comprises a material, having a water-absorption >10 times its wt., consisting of starch-polyacrylonitrile graft-copolymer or its alkali metal carboxylate, opt. mixed with a hydrophilic, hygroscopic and water-retaining granular, or powdery or fibrous material (e.g. sponge, hemp, cotton, calcium carbonate, etc.) coated with an elastic, foamed spongy material such as polyurethane, PVA, latex, synthetic rubber, cellulose, etc..

The wiping tool exhibits lasting water-absorption, water-retention and elasticity and does not become fluffy. 20.2.78 as 018280 (3pp50).

KIMM- D22 30762B/16 =J7 9028-235

Chemical body warmer giving off heat on shaking - comprises cast iron powder, manganese di:oxide, and silica gel supporting aq. cupric oxide soln.

KIMMEI INSATSU 16 08.77-JA-097492

*A92 E37 G04 P32 Q74 (14.09.79) *J54033-174 A61f-07/04 F24j-03*

A heat-emitting pack is prepd. by enclosing a mixt. of (a) 48.4 wt % cast iron powder (b) 12.9 wt % manganese dioxide, and (c) 38.7 wt % silica gel supporting 11.2-14 ml of 2.44 N cupric chloride aq. soln. in a bag having an air-permeability of 0.2 sec/100 cc.

Emission of heat is initiated by slight shaking, without addn. of water, etc. 16.8.77 as 097492, A61f-7/04, F24j-3/00 (14.9.79) KIMMEI INSATSU KK (3pp173)(J54033174)

KULZ D22 72816A/41 =J7 9028-413

Material for prepn. of bone cement - contg. acrylate copolymers with glass particles and fibres to give good mechanical properties

KULZER GMBH 02.06.77-DT-724814

*A96 L02 P32 +P31 (A14) (17.09.79) *BE-867-756 A61b-17 C08l-33/06 +C09j-03/14*

A preliminary product for the prepn. of bone cement contains powdered copolymers of methyl methacrylate and methyl acrylate, together with 15-75 wt % of an inorganic material made up of 90-99 wt % of a powdered glass bioactive ceramic material, the particles of this being 10-200 pref. 90-120 μm, as well as 1-10 pref. 5-10 wt % of vitreous mineral fibres with length < 20 mm, partic. 2-5 mm. The vitreous fibres are pref. glass.

Both powder and fibres pref. comprise 20-60 wt % SiO_2 5-40 P_2O_5, 2.7-20 Na_2O, 0.4-20 K_2O, 2.9-30 MgO and 5-40 CaO. The prod. also pref. contains a peroxy catalyst and a radiographic contrasting agent, partic. zirconium dioxide, also as antiseptic.

The product can be used to make moulded bodies which can be implanted, etc. It has good mechanical properties after hardening and a compsn. which favours growth of bone tissues. 1.6.78 as 065029 (clg. 2.6.77-DT-724814) C09j-3/14, A61b-17/00, C08l-33/06 (17.9.79) KULZER GMBH (4pp) (J5 4001345)

NIOC ★ D22 74638B/41 ★J7 9028-447

Slime removal from walls of cooling pipe contg. sea water coolant - by treating with an aq. soln. contg. hydrogen peroxide and ammonia or ammonium chloride

NIPPON OIL KK 00.00.73-JA-006591 (29.10.63-JA-057381)

C03 (D15) (17.09.79) A01n-09 C02b-03/06 C02b-05

A slimy tube is treated with an aq. soln. contg. H_2O_2 and NH_3 or NH_4Cl. The method rapidly removes slime and scale deposited on walls of cooling tubes in which sea water is used as the cooling medium, without stopping the operation of the cooler.

The treatment is pref. carried out by adding H_2O_2 and aq. ammonia to sea water in the cooling tube. Slime and scale separate from tube wall and disperse into water in a few min. In an example a slimy tube obtd. by circulating sea water of BOD = 15-20 ppm and COD = 10-15 ppm is immersed in a mixt. of 100 pbv. of 1% H_2O_2 soln. and 1 pbv of 28% aq. ammonia. The slime disperses in water as small particles in one min. 29.10.63 as 006591/73, Div. of 057381/63, C02b-3/06, 5/00, A01n-9/00 (17.9.79) NIPPON OIL KK (2pp83)

MITN D22 37389Y/21 =J7 9028-449

Chemical prevention of bacterial slime in e.g. cooling water - using hydrazine and hydrogen peroxide

MITSUBISHI GAS CHEM IND 14.10.75-JA-123467

*C03 (D15) (17.09.79) *J52048-258 C02b-05 +A01n-09 C02b-03/06*

Generation of slime (mainly due to the action of bacteria) is prevented in water (e.g. in a cooling water system) by addn. of hydrazine and H_2O_2, each at 0.5-500 ppm.

The object of this invention is to suppress, economically and effectively, generation of slime and not to remove slime already formed on the inside of a water system as disclosed in JA 73010204. The molar ratio of H_2O_2 to hydrazine is 0.2-5/1, pref. 1-5/1. 14.10.75 as 123467, A01n-9/00, C02b-3/06, 5/00 (17.9.79) MITSUBISHI GAS CHEM. IND. (5pp) (J5 2048258)

JOHJ ★ D22 75107B/41 ★US 4169-472

Surgical drape with liquid collection bag - attached to lower ends of flaps either side of panel or fenestration

JOHNSON & JOHNSON 17.04.78-US-896838

A96 P31 (02.10.79) A61b-19/06

A drape comprises a flexible sheet with a pair of spaced material strips secured to the upper surface with free flaps, with the strip bottom ends located in the open end of a bag formed by front and back panels. The flap bottom ends lower surface are secured to the lower surface of the bag front panel.

When in use the flaps can be raised relative to the sheet upper surface to channel liquids into the bag. The sheet is pref. of nonwoven fabric, scrim reinforced tissue or plastic film, the strips have an upper absorbent nonwoven fabric and lower liq.-impervious plastic film, and the bag is of impervious plastics. 17.4.78 as 896838 (12pp1358)

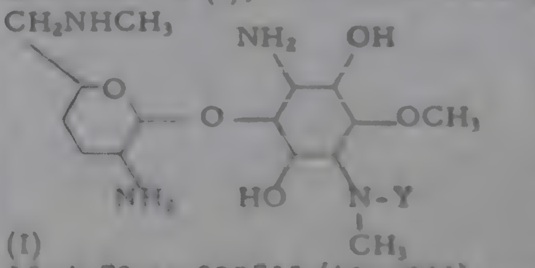
ABBO D22 82125A/46 =US 4169-942

Antibacterial (N)-methyl-fortimicin derivs. - useful therapeutically and for disinfection

ABBOTT LABORATORIES 11.05.77-JA-053879

*B03 E13 (02.10.79) *BE-866-933 C07h-15/22*

Fortimicin derivs. of formula (I) and its acid addn. salts, are new. In (I), Y is H or $COCH_2NH_2$. Specifically, (I) is 6'-N-methylfortimicin KE or 6'-N-methylfortimicin D.



(I)

(I) are antibacterial agents used to clean and sterilise laboratory glassware and surgical instruments. 25.4.78 as 899725 (10pp982)

See Also

D12 J7 9028312 D18 DT 2812682 D18 DT 2812681

D23: OILS; FATS; WAXES

SAH D23 13782W/08 =DS 2462-504
xtracting flavouring agents and perfumes from foodstuffs and lowers - by extraction with liquid dimethyl ether
ASAHI KASEI KOGYO 13.06.74-JA-066493 (06.08.73-JA-088184)
*(04.10.79) *NL7410-488 A23l-01*

nstant foods are prepd. from tea, coffee, borito or shiit- ke mushrooms by extraction with dimethyl ether, with or without water, removing the solvent partly or comple- ely to obtain a powdery to liquid extract, extracting the residue of the dimethyl ether extraction with water and then evaporating the water to obtain a powdery to liquid extract, mixing at least part of the aq. extract with the dimethyl ether extract and removing dimethyl ether and water from the combined extract under freeze drying conditions.

The taste and smell of the natural prods is retained. 26. 7. 74 as 462504 Div. ex. 2436130 (+ 16. 2. 74-JA-018880) (7pp068)

ANIS D23 76212X/41 =DS 2612-749
Cyanomethyl-substd tetrahydropyran- or -furane derivs - useful perfumes for detergent compsns (BE270976)
ANIC SPA 27.11.75-IT-029726 (27.03.75-IT-021724)
*E13 (04.10.79) *DT2612-749 C07d-307/16 C07d-309/04*

2, 6, 6-Trimethyl-2-cyanomethyl-tetrahydropyran and 2-methyl-2-cyanomethyl-5-isopropyl-tetrahydrofuran are prepd. by cyclising 3, 7-dimethyl-3-hydroxy-6-octene-nitrile in the presence of an inert organic solvent and a cationic ion exchange resin at 20-180°C.

The cpds. are obtd in good yield. The pyran cpd is useful as chemical intermediate and the furan cpd as perfume for detergents. 25. 3. 76 as 612749 (5pp068)

SUGY D23 04201Y/03 =DS 2623-261
Determining peroxide value of oils and fats - with glass fibre test paper impregnated with potassium iodide and starch reagent
SUGIYAMA SANGYO KAG 19.06.75-JA-075309
*J04 R16 (04.10.79) *DT2623-261 G01n-31/22 G01n-33/02 G01n-33/28*

Agent to determine the peroxide value of oils and fats comprises an absorbent carrier of glass fibres, e. g. filter paper of glass fibres, impregnated with a potassium iodide-strach soln.

The stain on the agent due to iodine released is directly proportional to the peroxide value. 24. 5. 76 as 623261 (5pp068)

AJIN ★ D23 74390B/41 ★J5 4112-385
Material for solidifying waste edible oil - comprises natural wax, synthetic wax, higher fatty acid, higher alcohol and/or a resin
AJINOMOTO KK 22.02.78-JA-019268
A81 E19 (03.09.79) B01j-01/24

The agent (I) for solidifying waste edible oil (II) is composed of (i) natural wax, (ii) synthetic wax, (iii) higher fatty acid which is solid at room temp., (iv) higher alcohol which is solid at room temp. and/or (v) a resin of m.pt. < 150°C.

(II) is easily discarded, or easily handled or stored for prodn. of soap.

(I) is pref. composed of solid paraffin, 14-18C satd. straight fatty acid and/or 14-18C satd. straight alcohol. Oil-gelling agent(s), such as amine salt of N-acyl amine acid, amide of N-acyl amino acid, ester of N-acyl amino acid, metal soap, condensation prod. between benzaldehyde and polyalcohol and acylated polysaccharide is/are pref. added to (I). 22.2.78 as 019268 (5pp42).

TSUR ★ D23 74557B/41 ★J5 4112-996
Long-lasting solidified perfume compsn. - comprises non-hydrophilic urethane prepolymer and a hardener blended with a perfume
TSUMURA JUNTENDO KK (TOHR) 22.02.78-JA-018512
A96 (A25) (04.09.79) C08g-18/08

Non-hydrophilic urethane prepolymer (e.g., polyether or polyester urethane prepolymer contg. 2 - 40% of free isocyanate gp., etc.) and a hardener except water (e.g., aliphatic or aromatic amines, polyhydric alcohols, polyetherpolyols, polyesterpolyols, acrylate or epoxy-modified polyols, etc.) are blended with a perfume (5-70 pts. wt. per 100 pts. of the carrier mixt.).

In an example, polyoxypropylene-triol having average mol. wt. of 300 (259 g) and di-octyl phthalate (200 g) are dehydrated under reduced pressure to a moisture content of ⩽ 0.05%. The dehydrated mixt. is added with 4, 4'-diphenylmethane-di-isocyanate (541 g) and reacted at 100°C for 3 hrs. in N_2 stream to prepare a prepolymer contg. 7.3% of free NCO. The prepolymer (85 pts.) and a soln. of 3, 3'-dichloro-4, 4'-diaminodiphenyl methane (35 pts. wt.) in di-octyl phthalate (65 pts. wt.) under heating (43 pts.) are mixed uniformly and added with Perfume HM-7667 (available from TAKS having lilac aroma) (50 pts.). The mixt. is casted into a box of silicone paper (10 x 70 x 40 mm). The casted compsn. is hardened in about 20 min. and released from the box after about 1 hr.

The solidified perfume mass is prepd. and casted easily. It smells presistently for a long period. It is tough and long shelf life. 22.2.78 as 018512 (10pp59).

NISW D23 26194Y/15 =J7 9028-844
Fats and oils purification - by degumming, decolorising, adding glycerin or its fatty acid ester, vapour distilling, deacidifying and deodorising
NISSHIN OIL MILLS KK 29.08.75-JA-104146
*(19.09.79) *J52028-506 C11b-03/12*

The process consists of degumming and decolourising a crude oil by a conventional method, adding glycerin or a fatty acid partial ester of glycerin (1.5-2 times the theoretical amt. required for free fatty acids in the fat and oil to be treated) and distilling the mixt. with vapour (by performing the reaction of the additive and free fatty acids at < 190°C. The reaction prod. is then deacidified and deodorised at > 210°C.

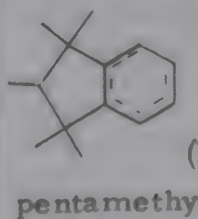
The process is used for palm oil, coconut oil, palm-kernel oil, etc. Use of fatty acid partial ester of glycerin having the same or similar compsn. to that of the fatty acid contained in the oil to be treated results in no change in the quality of the prod. Fats and oils of excellent quality are obtd. in high yields. 29.8.75 as 104146, C11b3/12 (19.9.79) NISSHIN OIL MILLS KK (3pp136) (J5 2028506)

SANE D23 82343W/50 =J7 9028-858
Water-dispersible carotenoid colouring agents
SAN EI CHEM IND KK 05.11.73-JA-124124
*E15 (19.09.79) *J50075-215 +C09b-61*

In order to prepare carotenoid colouring agents, β-carotene 20, orange oil 0.2 and palm oil 79.8 pts. were mixed and heated at 155°C for 10 min. The mixt. (15 pts) was homogenised with a mixt. contg. 30% gum arabic 80 and dextrin 25 pts. the mixt. was spray-dried. 5. 11. 73 as 124124, C09b-61/00 (19. 9. 79) SAN EI CHEM. IND. KK (4pp) (J5 0075215)

INFL D23 08121S/04 =NL-161-427
Indane derivs as odorants
INT FLAVORS & FRAGR INC 18.08.69-US-851090 (18.08.69-US-851048)
*E14 (17.09.79) *BE-753-751 A61k-07/46 C07c-01/20 C07c-05/10 C07c-13/46 C11b-09*

Indane derivs. of formula (I):



(I)

where the broken lines are single or not more than 2 double bonds, have strong penetrating amber wood fragrance. They are prepd. by catalytically hydrogenating 1, 1, -2, 3, 3-pentamethylindane to form 4, 5, 6, 7-hexahydro and 4, 5, 6, 7, 8, 9-hexahydro-pentamethylindane, the tetrahydro cpd. is opt. treated with a percarboxylic acid to form 4, 9-epoxy-4, 5, 6, 7, 8, 9-hexahydro-1, 1, 2, 3, 3-pentamethylindane which is then converted with a strong protonic acid to 5, 6-dihydro-1, 1, 2, 3, 3-pentamethylindane and opt. isomerised. Pref. the 4, 5-dihydro cpd. is used.

Typically, hydrogenation is effected at 100-225(150-190)°C and 50-200(60-130) atmos. using a Raney nickel or noble metal catalyst. The epoxide is converted by refluxing with the acid e.g. sulphuric or a sulphonic acid. Formation and decompsn. of the epoxide at 15-120°C, usually at atmospheric pressure. 15.1.76 as 000399 Div. ex 17.8.70 - 012137 (+ 18.8.69(3) - US - 851049, 851076, 851086) (7pp913).

TOPE D23 63021V/36 #NL-161-430

Acetates of substd. benzaldehydes and benzyl alcohols - prepd. by oxidn. of corresp. acetates of methyl substd. phenols

TOPCHIEV PETROCHEM SYNTH 12.02.74-BE-810896 (28.01.74-NL-001138)

*E14 (17.09.79) *BE-810-896 C07c-47/52 C07c-69/12 + C07c-67*

Alkyl aromates are oxidised in the liq. phase using O_2 at 180-250°C and an over-pressure of 5-40 bar, in the presence of 9-60 vol. % acetic anhydride (based on the starting material). Specifically acetates or methanolates of methyl substd. phenols are oxidised to acetates of hydroxybenzaldehydes or hydroxybenzyl alcohols, or methoxybenzaldehydes and methoxybenzylacetates, in the presence of an acid catalyst. The prod. is opt. hydrolysed with water at 200-240°C and an over-pressure of 20-50 bar in the presence of Na acetate.

Pref. oxidn. is effected in the presence of benzene or anisol, with a vol. ratio of acetate/methanolate : benzene of ≥1:1. High yields with good selectivity are achieved in a small number of process stages, by-prodn. of phenols is negligible. 28.1.74 as 001138 (6pp913).

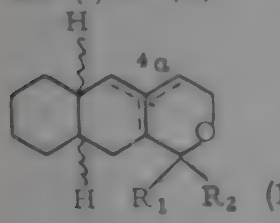
ROUR D23 50206U/35 =NL-161-446

Naphthopyrans prepn - as odourants, from 2-hydroxy -2-hydroxyethyl decalin and a ketone

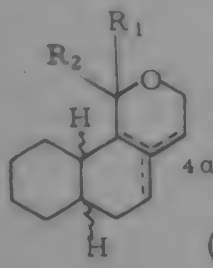
ROURE BERTRAND DUPO 16.02.72-FR-005139

*E13 (17.09.79) *BE-795-525 A61k-07/46 C07d-311/92 C11b-09*

Alkyl-substd. hydrogenated naphtho-pyranes are of formula (I) or (II),



(I)



(II)

in which R_1 and R_2 are 1-4C alkyl, and the broken lines represent an opt. double bond from the 4a-C atom. The cpds. have an amber fragrance, and are used to enhance perfumes.

The cpds. can be prepd. e.g. by condensing 2-hydroxyethyl-2-hydroxy decalines with a dialkyl ketone R_1COR_2 (e.g. methylethyl ketone, (m)ethylisobutyl ketone, methylpropylketone, diethylketone, or pref. acetone). Opt. the prod. can be catalytically hydrogenated. 1.2.73 as 001464 (7pp913).

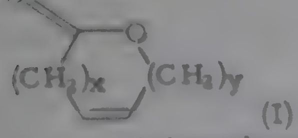
INFL D23 62444S/39 =NL-161-448

Macrocyclic lactone prepn

INT FLAVORS & FRAGR INC 11.03.70-US-018758 (11.03.70-US-018684)

*E15 (17.09.79) *NL7103-284 + C07d-313*

Ambrettolide (I) and its isomers are synthetic perfumes with musk odour.



(I)

They can be prepd. cheaply by (a) reacting 1,9-cyclohexdecadiene with a peracid to form 1,2,9,10-diepoxycyclohexadecane, (b) reducing this to a mixt. of 1,9-cyclohexadecadiol and 1,8-cyclohexadecadiol, (c) oxidising the mixt. to 9-hydroxy- and 8-hydroxy-1-cyclohexadecanone.

Further (d) oxidising the mixt. with a peracid in the presence of boron trifluoride etherate as catalyst to form a mixt. of 8-hydroxy-, 9-hydroxy- and 10-hydroxy-1-cyclohexadecanolide, and finally (e) hydrating the mixt. to ambrettolide (I) and its isomers using a strong acid. In the formula, x and y are 5-8, such that x+y = 13. 31.5.74 as 007463 Div. ex 11.3.71 - 003284 (+ 11.2.70(2) - US - 018701, 018757) (6pp913).

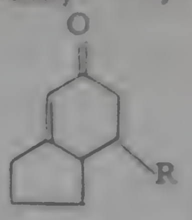
FRIT- ★ D23 74671B/41 ★NL 7902-213

Alkyl-substd. bi:cyclo-nonenone and -nonanone cpds. - useful as fragrances and flavours

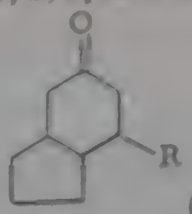
FRITZSCHE DODGE & O 21.03.78-US-888778

E15 (D13 D21) (25.09.79) A23l-01/22 A61k-07/46 C07c-49/54

5-Alkyl-bicyclo[4,3,0]non-1-en-3-ones of formula (I) and 5-alkyl-bicyclo[4,3,0]nonan-3-ones of formula (II).



(I)



(II)

(where R is 1-5C alkyl, pref. butyl) are new. Also claimed are products contg. cpds. (I) or (II), pref. in an amt. of 0.0001-50 wt. %.

Cpds. (I) and (II) are useful as fragrances and flavours in perfumes, cosmetics, foodstuffs, spices, etc. (I; R = Bu) has an esp. useful celery flavour and aroma. 21.3.79 as 002213 (14pp367).

SYNT= ★ D23 74921B/41 ★SU-642-359

Perfume compsn. having citrus odour - is based on fatty aromatic alcohol and its ester, terpene alcohol and its ester and contains alpha ethyl-hydro-cinnamic aldehyde

SYNTH NAT PERFUMES 16.05.74-SU-025876

E19 (18.01.79) C11b-09

A compsn. with a citrus odour contains (in wt. %): fatty aromatic alcohol 31.0-44.0, fatty aromatic alcohol ester 8.0-14.0, terpene alcohol 7.0-23.0, terpene alcohol ester 1.0-9.0, terpene aldehyde 10.0-15.0 and α-ethylhydro cinnamic aldehyde apelsinal 3.0-35.0. A compsn. pref. contains (in wt. %): phenylethyl alcohol 22.0-28.0, cinnamic alcohol 10.0-15.0, benzyl acetate 9.0-14.0, terpenyl acetate 2. geraniol 3.0-10.0, linalool 4.0-12.0, apelsinal 3.0-10.0, 0-8.0, hydroxycitronellal 10.0-15.0, decyl aldehyde 0.3-0.7 and α-anylcennamaldehyde 0.7-23.3.

Pref. compsn. for an imaginative odour is (in wt. %): phenylethyl alcohol 21.0-28.0, cinnamic alcohol 10.0-15.0 benzylacetate 8.0-14.0, geraniol 3.0-4.0, linalool 4.0-12.0, terpenylacetate 1.9-9.0, hydroxycitronellal 10.0-15.0, apelsinal 3.0-5.0, heliotropin 2.5-6.0, isoeugenol 1.5-3.0,'iraliya' 5.0-8.0 and cycloacetate 5.0-10.0. Voitkevich, S.A., Laskina, E.D., Devitskaya, T.A. Bul 2/15.1.79. 16.5.74. as 025876 (3pp1047)

KRFT ★ D23 75211B/41 ★US 4169-843

Hydrogenation of liq. oils - over conventional nickel catalyst with sulphur poisoned catalyst, to give high trans-content fats

KRAFT INC 29.06.77-US-811167

(02.10.79) A23b-04/04 C11c-03/12

Single stage prepn. of a hydrogenated liq. oil (I) is described a liq. oil (II) of I_2 value 90-135 is hydrogenated over a catalyst system consisting of 0.007-0.03% by wt. of (II) of a conventional Ni catalyst and 0.02-0.1 % by wt. (II) of an S-poisoned catalyst. Ratio Ni catalyst:S-poisoned catalyst is 0.1-1:1. (I) contains >60 % trans-isomer, <7% by wt. diene, and 10% by wt. stearate without fractionation.

Single stage process directly affords fats which have a steep SFI slope, and contain high solids at room temp. and little or no solids at body temp. (I) have physical props.similar to cocoa butter and butter fat; have good gloss retention; and do not need tempering. 29.6.77 as 811167 (5pp478)

SCMZ D23 31554B/17 =US 4169-844

Hydrogenating crude glyceride oils using nickel catalyst - together with auxiliary copper chromite catalyst

SCM CORP 17.04.78-US-896508 (17.03.77-US-778710)

*(02.10.79) *BE-871-273 + B01j-23/84 C11c-03/12*

A crude glyceride oil is hydrogenated with H_2 under hydrogenation conditions in the presence of >0.02 wt. % (w.r.t oil) nickel hydrogenation catalyst and >0.2 wt. % copper chromite adjunct catalyst.

The concn. of the adjunct catalyst is estabilished and maintained broadly proportional to the concn. of contaminants in the oil. The hydrogenation is discontined after a significant increase in oil satn. has occurred. Pref. the concn. contaminant phosphate is <2 wt. %, and the hydrogenation is discontinued when the prod. has an Iodine Value ⩽ 100.

The process is esp. used on vegetable oils, animal oils fish oils, etc. 17.8.78 as 896508 (+17.3.77, 10.11.77-US-778710, 850150) (6pp931)

AOS D23 76805A/43 =US 4169-958

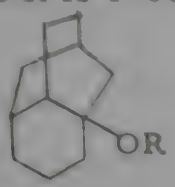
Alkoxy-homo-isotwistane perfume components - prepd. by reacting alogenated homo-isotwistane with an alcohol, pref. in the resence of silver oxide

KAO SOAP KK 11.04.77-JA-040339

*E15 (02.10.79) *DT2815-393 C07c-43*

3-Alkoxy-4-homoisotwistane is prepd. having formula (I) where R is 1-6C alkyl or 5-6C cycloalkyl. Pref. R is a 1-4C alkyl.

(I)



(I) is prepd. by reacting a 3-halogeno-4-homoisotwistane of formula (I) (where the OR gp. in the formula is replaced by Cl or Br) with an alcohol, R-OH, where R is as defined above. The reaction occurs at 50-100°C for 15 mins-5 hrs. The alcohols used are methanol, ethanol, n- or isopropanol, n-, sec- or isobutanol, amyl alcohol, hexy alcohol, cyclopentanol or cyclohexanol. Silver oxide can be added as a condensing agent to speed up the reaction.

(I) may be used in the prodn. of a perfume compsn. esp. industrial prods., detergents, cleansers, aerosols for insecticides and disinfectants, and cosmetics, in the form of soaps, lotions, bath additives, ointments, milky lotions perfumes and Eau de Cologne. 6.4.78 as 893828 (3pp931)

See Also

D13 DS 2718797 D13 J5 4112825 D21 DS 2024051

D24: SOAP; SOAP DETERGENTS

KAWA/ D24 74776U/49 =J7 9028-403

Toilet soap - contg beef tallow

KAWAZOE A (KAW /) 03.12.71-JA-097987

*(17.09.79) *J48061-507 +C11d-09/32*

Soap contains 2% of a mixt. of dialkylamino-2-butenylsulphonate and arylamide in addn. to beef tallow 75, coconut oil 15, rice oil 10, and NaOH 15 pts. 3.12.71 as 097987, C11d-9/32 (17.9.79) KAWAZOE A (2pp) (J4 8061507)

D25: OTHER DETERGENTS

ERNS/ ★ D25 73646B/41 ★BE -876-777

Cleaning product for removing dust from floors - contg. treated residual flax stalk

ERNST M 05.06.79-BE-876777

A97 G04 P26 (01.10.79) A47c C09k

The product comprises treated flax chaff (i.e. the core of the stem of flax remaining after netting and stripping). The chaff is sterilised and ground. A part of the product is mixed with an acrylic and/or vinyl aq. emulsion dispersion or other organic adhesive using 5-20% resin based on the dry weights and 20-200% water based on the weight of the chaff. The other pant is impregnated with a suitable surfactant soln. and the two parts are then mixed.

The product is used for removing dust from the floor by sweeping. It is uniform, sterile, biodegradable, safe in food surroundings and is very much more effective than present sawdust type products. 5.6.79 as 876777 (7pp597)

ERNS/ ★ D25 73647B/41 ★BE -876-778

Cleaning industrial floors using tacky fibrous compsn. - which is spread and then swept to avoid dust ingress in interstices or duct dispersion in atmosphere

ERNST M 09.06.78-FR-017855

G04 P28 (01.10.79) A47l C09k

Floors are swept and cleaned with a fibrous compsn. which is shaped on the floor and then collected with a hand or automatic broom so that the dust on the floor sticks to the compsn. and traces of antistatic, bactericidal, cleaning agents are left on the floor. The fibre is cellulosic (e.g. saw dust) and is impregnated with 5-15% a bitumen emulsion or tacky organic latex, 2-15% nonionic and cationic w wetting agents, 0.5-5% quat. ammonium salts, 1-3% solvent (turpentine) and 30-500% water. The fibres suitably range in length from $\frac{1}{2}$mm to several cm.

Collection of dust in interstices of the floor as occurs during wet sweeping, or dispersion of dust in the atmosphere as occurs during dry sweeping is avoided. 5.6.79 as 876778 (5pp950)

KAOS D25 76001W/46 =DS 2420-647

Bleaching compsn. contg. inorganic peroxide - activated by polyester contg. carbon atom between 2 adjoining ester bonds

KAO SOAP KK 27.04.74-DT-420647

*A97 E19 (04.10.79) *DT2420-647 D06l-03/02*

Bleaching agent comprises an inorganic peroxide which yields H_2O_2 in aq. soln and activator of formula R-CO-O(CBH-CO-O)M (where R is (hydroxy or halogen substd) 1-16C alkyl or substd. aryl, B is H or 1-3C alkyl, M is H, 1-4C alkyl or an alkali metal and $n \geqslant 1$ when M is alkyl and $n \geqslant 2$ when M is H or alkali.

The bleaching agent, e.g. sodium perborate and Cl $CH_2COO(CH_2COO)_7$ Na, acts at lower temp. in detergent compsns. 27.4.74 as 420647 (5pp068)

SZEN/ ★ D25 B/41 ★HU T017-001

Dialkyl ester sulphosuccinate surfactants - used in detergent compsns.

SZENTIRMAY A 12.07.77-HU-SE1863

E17 (28.09.79) B01f-17/10 C07c-69/40 C07c-143/52 C11d-01/28

NIYU- ★ D25 74502B/41 ★J5 4112-905

Cleaning compsn. for synthetic fibre dyeing machines - comprises adduct of ethylene oxide and nonyl- or octyl-phenol, and sodium hydroxide

NIPPON YUKA KOGYO K 23.02.78-JA-019036

A97 F06 (A23 A25 A35) (04.09.79) C11d-10/02

Compsn. comprises 5 - 60 (15 - 40) wt.% of the adduct of ethyleneoxide and nonyl- or octyl-phenol $C_mH_{2m+1}-C_6-H_4O-(CH_2CH_2O)_nH$ (m = 8 or 9, n = 20 - 80) and 40 - 95 (60 - 85) wt.% of NaOH.

Compsn. is used for the cleaning of inner walls, pipes, heat exchangers, etc. of dyeing machine of polyester fibre. Compsn. has good effect at 98°C and effect at high temp. and pressure, (e.g., 130°C, 2.5 kg/cm^2) and is used together with hydrosulphite. Compsn. is used for the cleaning of dyeing machine of other synthetic fibres. 23.2.78 as 019036 (4pp170).

KAOS D25 65922X/35 = J7 9028-847

Liq dish washing detergent with mild, foaming action - contg polyoxyethylene-2-butyl octyl ether sulphate

KAO SOAP KK 13.01.75-JA-006169

*A97 E19 (19.09.79) *J51081-804 C11d-01/94*

Liquid detergent contains (a) 3-40 wt % of polyoxyethylene-2-butyl-octyl ether sulphate of formula: $CH_3(CH_2)_5CH(C_4H_9)CH_2O(CH_2CH_2O)_nSO_3M$ (where n is 1-10, and M is alkali(ne earth) metal, ammonium or ethanolamine), and (b) 1-20 wt % of auxiliary active agent, selected from dimethylalkylamine oxide, fatty acid diethanolamide and dimethylalkylbetaine. Cpd. (a) shows synergism with (b) 13. 1. 75 as 006169, C11d-1/94 (19. 9. 79) KAO SOAP KK (3pp) (J5 1081804)

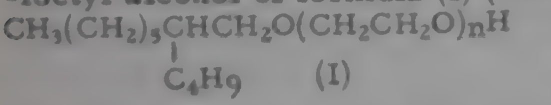
KAOS D25 65923X/35 = J7 9028-848

Low foam detergent - contg ethylene oxide/2-butyloctyl alcohol addition cpd

KAO SOAP KK 13.01.75-JA-006170

*A97 E17 (19.09.79) *J51081-805 C11d-01/72*

Detergent contains ethylene oxide addition cpd. with 2-butyloctyl alcohol of formula (I) (where n is 5-8).



$$\underset{\displaystyle C_4H_9}{CH_3(CH_2)_5\overset{}{C}HCH_2O(CH_2CH_2O)_nH}\quad (I)$$

1-Acetoxy-2-(2-butenyl) butadiene is obtd. by trimerising butadiene in the presence of catalyst and acetic acid is hydrolysed, and 5-8 mole ethylene oxide is added to the resulting 2-butyloctyl-alcohol to obt. polyoxyethylene-2-butyloctyl ether--usual method. 13. 1. 75 as 006170, C11d-1/72 (19. 9. 79) KAO SOAP KK (4pp) (J5 1081805)

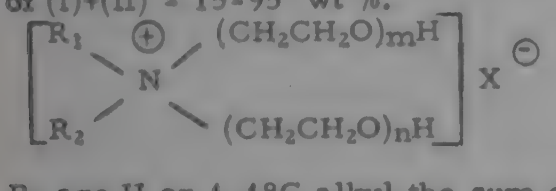
KAOS D25 45789Y/26 = J7 9028-849

Anionic builder free liq. detergent compsn. - contains synergistic combination of quat. ammonium cationic surfactant and polyethylene oxide non ionic surfactant

KAO SOAP KK 11.11.75-JA-135434

*A97 E16 (A25 E17) (19.09.79) *J52059-606 C11d-01/83*

Compsn. contains a cationic surfactant of formula (I) and nonionic surfactant of formula $R_3R_4CH\text{-}O(CH_2CH_2O)_lH$ (II) in the wt. ratio of 1:29 respectively and in the total wt. amt of (I)+(II) = 15-95 wt %.



In (I) R_1 is 1-3C alkyl, R_2 is 12-18C alkyl, X, Cl or Br, n and m are 1-200 and (n+m) is 20-200. In (II) R_3 and R_4 are H or 1-18C alkyl the sum of C number being 12-18 and l is 3-30.

(I) is obtd. by adding ethylene oxide to 12-18C alkylamine (e. g. dodecylamine) and quaternising the resulting dipolyoxyethylenealkylamine with 1-3C alkyl halide (e. g. methyl chloride). (II) is obtd. by adding ethylene oxide to a sec. alcohol formed by oxidn. of n-paraffin. The compsn. exhibits excellent washing power.

In an example, a liq. heavy detergent for clothes consists of (II) (12 mol. ethylene oxide addn. prod. of 12-14C alcohol) 50%, (I) (R_1 is CH_3, R_2 is 16-18C alkyl, and m+n = 50) 10%, ethanol 5% and water 35%. The detergent is used in a concn of 0.08%. 11. 11. 75 as 135434 C11d-1/835 (19. 9. 79) KAO SOAP KK (9pp50) (J5 2059606)

FARH D25 39687R/22 = NL-161-420

Manganese elimination from phosphate solns

HOECHST AG (KNAP) 30.11.68-DT-811994

*E36 (17.09.79) *BE-742-382 + C01b-25/30*

Alkali metal phosphate solns. contg. 100-1000ppm. Mn impurities (based on P_2O_5), are purified in the presence of >2000ppm. Mg by neutralising to an alkali metal oxide : P_2O_5 molar ratio of >1. 9:1. The formed ppte. is removed by filtration.

Pref. the Mg ion concn. is maintained at 4000-8000 by adding a soluble Mg salt. The combination of high alkali : P_2O_5 ratio and Mg concn. gives improved Mn-removal. In examples, a soln. contg. 700mg Mn/kg. P_2O_5 was treated. The filtrate concns. of mgMn/kg. P_2O_5 were (a) at molar ratio 1. 79, 66; (b) at molar ratio 1. 79 and 6700 mg Mg/kg. P_2O_5, 18; (c) at molar ratio 1. 98 and 6700mg. Mg/kg. P_2O_5, 5; (d) at molar ratio 1. 79 and 3500mg Mg/kg. P_2O_5, 41. 6; and (e) at molar ratio 1. 94 and 3500mg Mg/kg. P_2O_5, [illegible]

MOOC D25 27013V/15 = NL-161-50

Ampholytic betaine type detergents - obtd by reacting a higher alcohol with epichlorhydrin then aminating and quaternising the product

MODOKEMI AB 30.11.72-SW-015647

*E19 (17.09.79) *BE-807-895 C07c-101/12 C11d-01/88*

New ampholytic surfactants of betaine-type of formula (I) are used in washing and cleaning agents:

$RO(C_{p_1}H_{2p_1}O)_{n_1}(C_{p_2}H_{2p_2}O)_{n_2}(C_{p_3}H_{2p_3}O)_{n_3}CH_2CH(OH)\text{-}\text{-}\text{-}CH_2N^+R_1R_2C_qH_{2q}COO^-$ (I).

In the formula, R_1 and R_2 are independently 1-3C alkyl, R is 6-22C (cyclo)aliphatic gp. or aromatic gp. with ≥1 alkyl gp. and total of 4-18C in the alkyl(s); p_{1-3} are independently 2, 3 or 4, n_{1-3} are 0-10, such that $n_1+n_2+n_3$ is 1-10; and q is 1, 2 or 3.

Specifically (1) q is 1, (2) R_1 and R_2 are methyl, (3) conditions (1) and/or (2) with p_{1-3} being 2. Cpds. (I) have good cleansing action, and are cheap and easy to produce. 29. 11. 73 as 016355 (6pp913).

PROC D25 50655Z/00 = NL-161-501

Bleaching mixture

PROCTER & GAMBLE CO 02.10.67-US-671942

*(17.09.79) *BE-721-695 C11d-03/14*

Bleaching cleaning agent comprises (a) 60-95 wt. % finely divided, water insol. scouring agent, (b) 3. 5-15 wt. % alkaline washing agent intensifiers, (c) stable, active-Cl_2 releasing cpd. in amt. corresp. to 0. 03-5 wt. % active Cl_2 and (d) sulphamic acid and/or water soluble sulphamate, sufficient to give a wt. ratio of active Cl_2, sulphamic acid of 500-1:1. The prepn. is made up such that in use it has pH ≥10. 5.

Pref. the wt. ratio of active Cl_2 : sulphamic acid is 10-5:1. Opt. the prepn. contains 0. 01-1 wt. % perfume, which contains one or more alcohols, esters, aldehydes and/or ketones. The combination of active Cl_2 and sulphamic acid is esp. suitable for removing ferritannate and tea stains. 1. 10. 68 as 014035 (8pp913).

AUTO= ★ D25 74747B/41 ★SU -639-924

Cleaning compsn. for metal surfaces - includes surfactant obtd. by reacting oxyethylated mono:ethanolamine(s) of fatty acids with urea

AUTO IND TECHNOL 20.07.76-SU-388473

A97 E16 M12 (30.12.78) C11d-01/66

A compsn. used for cleaning metal surfaces contains a surfactant of formula (I): $RCONHCH_2CH_2O(CH_2CH_2O)nH(H_2NCONH_2)m$ (where R is 10-16C alkyl; n is 5-6; m is 18-31). The compsn. is (in wt. %): (I) 1-20, 7-22C fatty acid alk and amine salt 5-40, alkanolamine 5-40, complexing agent 10-60 and water up to 100.

Pref. alkanolamine is mono- di- or triethanolamine and complexing agent is sodium tripolyphosphate, sodium ethylenediaminotetraacetate, nitrilotriacetic acid or their mixt.

The emulsifier is used in engineering and the construction industry and for surfaces prior to coating. Getmanskii, I. K., Kotsyuk, A. M., Oleinik, M. M. Bul 48/30. 12. 78. 20. 7. 76. as 388473 (3pp1047)

PROC ★ D25 75194B/41 ★US 4169-806

Granular detergent agglomeration process - adding ingredients in specified order to give caking resistant prod.

PROCTER & GAMBLE CO 09.08.78-US-932109

(02.10.79) B01j-02/28 C11d-03/07 C11d-11

Agglomerated granular detergents are prepd. by combinin ≥10 wt. % Na tripolyphosphate (I), 50-96 wt. % alkali metal polyphosphates (including I) orthophosphates, chlorinated orthophosphates, silicates, carbonates, sulphates and/or acetates, 4-20 wt. % alkoxylated nonionic surfactant, and as agglomerating agent an alkali metal silicate soln. wher the ratio $SiO_2:M_2O$ is 1. 6-3. 3. (M is alkali metal).

Process is improved by adding a portion of the surfactant to one or more dry ingredients other than (I), and adding another portion of surfactant to a major portion of (I), concurrent with or subsequent to the addn. of the agglomerating agent to (I).

The prod. has improved phusical properties, esp. less tendency to caking. 9. 8. 78 as 932109 (7pp955)

DW- D25 31504X/17 = US 4169-817
a cleaning compsn contng stabilized enzymes - is storage-stable
ithout enzyme de-activation
MIDWEST BIOCHEM 08.04.74-US-458819 (21.08.69-US-852079)
*(02.10.79) *USB458-819 C11d-07/42*

q. cleaning compsn. (I) contains stabilised enzymes enab
ing (I) to be stored for extended periods without appre-
able deactivation of the enzymes. (I) comprises an aq.
oln. contg. 10-50 wt. % solids and has a pH 7-11.

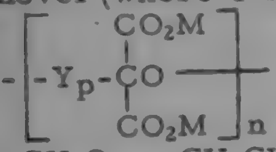
(I) comprises by wt. (a) 2-25% ionic detergent builder
I); (b) 5-30 wt. % water-soluble surfactant (III); (c) 0.1-5
t. % water-soluble alkaline protease; (d) 5-40 wt. %
nzyme stabiliser (IV); and (e) the balance water.

(II) is water-soluble inorganic phosphate, nitrilotriace-
c acid, water soluble alkali metal salt of nitrilotriacetic
cid, ethylene diamine tetra acetic acid or its water solu-
le alkali water metals salt or the combination of alkali
etal carbonate and alkali metal metasilicate. (III) is
lkali metal alkyl sulphate (where alkyl has 10-18C atoms)
lkali metal alkylol sarcosinate (where alkylol gp. con-
ains 11-18C atoms), acetylenic glycol, alkyl aryl sul-
honate (where alkyl gp. contains 8-15C atoms) and/or
atty acid alkanolamide (where acyl radical has 10-18C
toms). (IV) is alkali metal sulphate or chloride, glycerol
r 2-8C alkylene glycol.

Compsn. can be stored at room temp. for extended
eriods without appreciable deactivation of the enzymes.
3.4.74 as 458819 (+23.12.71-US-211755) (c.f. Der.
31504X/17) (8pp936)

MONS ★ D25 75255B/41 ★US 4169-934
Keto di:carboxylate copolymers and salts - used as chelant, sequestrant and detergent builder non-depolymerising under normal domestic laundry conditions
MONSANTO CO 03.04.78-US-892591
A97 (A17 A26) (02.10.79) C08g-02/20

(A) Copolymer of ketodicarboxylates of formula (X) is novel
novel (where Y is comonomers selected from olefins and



$$-\left[-Y_p-\overset{CO_2M}{\underset{CO_2M}{C}}O-\right]_n$$

aldehydes of 1-3C, n is $\geqslant 2$ on av., pref. 10-200, esp. 10-100, p is $\geqslant 1$, M is selected from alkali metal, NH_4, 1-4C alkyl or 1-4C alkanolamine; pref. Y is $-CH_2O-$, $-CH_2CH_2-$ and $-(CH_3)CHCH_2-$).

(B) Copolymers of formula R_1-X-R_2 (where R_1 and R_2 are any chemically stable gps., (pref. oxygen contg) alkyl or oxygen contg. cycloalkyl) that stabilise the copolymer against rapid depolymerisation in alkaline soln.) and (C) Copolymer salt comprising an alkali metal, ammonium or alkanolamine saponified stabilised copolymer (B) are also claimed.

The copolymer is used as a chelant, sequestrant and detergent builder and does not depolymerise under normal domestic laundry conditions of 10-60°C, 15 mins. wash times and concn. of 250 ml/water. It will depolymerise in acid media, rendering the fragments more readily biodegradable in waste streams cf. prior art polymeric acetal carboxylates. 3.4.78 as 892591 (8pp966)

UNIL ★ D25 75266B/41 ★US 4169-957
Amide derivs. of carboxymethyl:oxy:succinic acid - useful as surfactants and prepd. e.g. from carboxymethyl:oxy:succinic anhydride
LEVER BROTHERS CO 04.04.78-US-893228 (16.05.77-US-797226)
E16 (E12) (02.10.79) C07c-103/32

A mixt. of amido ether polycarboxyl cpds. of formula $CH_2(COY)-CH(COY)-O-CH_2(COY)$ is new. In the formula, each Y is NH_2, $-NRR'$ or OM', with 1 or 2 Y substits. being NH_2 or $-NRR'$ and $\geqslant 1$ Y always being OM'. R is 6-22C alkyl or an alkylol gp. R_2 is OH (where R_2 contains 2-4C); R' is selected as R or is H; and M' is H, an alkali metal or ammonium.

The cpds. of the mixt. are useful as surfactants and may be prepd. starting from e.g. the carboxymethyloxysuccinic anhydrides claimed in US 4093634. 4.4.78 as 893228 Div ex 4093634 (7pp990)

CPI INDEXES

LERTING PATENTEE INDEX (II)

Veekly by section and overall, lists all current patents in atentee code order and, within a given patentee, in earliest riority date order. The first line gives patentee code, arliest priority date, patentee name, CPI classes and finally he current patent number. The second line gives the first art of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L   A93   *DT 2602-948
   Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L   A93 L02(A21)  *DT 2602-947
   Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
     M22
 *BE -836-489
 *CA -987-881
 =DS 1569-023
 =DS 2245-330
 *DS 2517-206
 *DS 2519-679
 =DS 2520-359
 *DT 2450-918
 *DT 2451-494
 =DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE  -832-423  X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF 7502-292   X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or # sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97D15M14
*645 49861X  A41E19J04
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                               49862X/26  *US 3963-654
  CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                          49433X/26  *DT 2554-327
  CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                               48076X/26  *CA -990-668
  CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR	Luxembourg	LU
Australia	AU	Malawi	MW
Austria	OE	Mexico	MX
Belgium	BE	Monaco	MC
Brazil	BR	Netherlands	NL
Bulgaria	BG	New Zealand	NZ
Canada	CA	Norway	NO
Chile	CE	Pakistan	PK
Colombia	CO	PCT	WP
Czechoslovakia	CS	Philippines	RP
Denmark	DK	Poland	PO
Europe	EP	Portugal	PT
Finland	SF	Rhodesia	RH
France	FR	Rumania	RU
Germany, East	DL	South Africa	ZA
Germany, West	DS	South Korea	KS
Germany, West	DT	Spain	ES
Greece	GR	Sudan	SD
Hungary	HU	Sweden	SW
Iceland	IS	Switzerland	CH
India	IN	Syria	SR
Ireland	EI	Trinidad	TD
Israel	IL	Turkey	TR
Italy	IT	Untd. Kingdom	GB
Japan	JA	U.S.A.	US
Japan, unex.	J5	U.S.S.R.	SU
Japan, ex.	J7	Yugoslavia	YU

ABBO 11.05.77 ABBOTT LABORATORIES B03 D22 E13 =US 4169-942
Antibacterial (N)-methyl-fortimicin derivs. - 82125A/46
ABBO 20 03 78 ABBOTT LABORATORIES A96 B04 D16 J04 =DT 2910-707
Stable reagents for hepatitis testing - 69922B/39
ABBO 20 03.78 ABBOTT LABORATORIES A96 B04 D16 J04 =NL 7902-152
Stable reagents for hepatitis testing - 69922B/39
ABET- 06.03.78 A-BETONG AB D15 E17 =WP 7900-719
Large scale mfr. of methane from organic waste e.g. manure - 66325B/37
ADWA- 18.02 78 ADWATRE INC D15 =NO 7900-520
Aerobic treatment of waste water by activated sludge - 65803B/36
*AERO- 13.12.76 AERO-HYDRAULICS D15 J02 *US 4169-873
Fluid circulator for sewage treatment - 75224B/41
*AGEN 16.11.67 AGENCY OF IND SCI TECH D17 (D16) *J7 9028-455
Beet sugar prodn. - 74639B/41
*AGEN 23.02.78 AGENCY OF IND SCI TECH D16 J04 *J5 4113-383
Determination of enzyme activity - 74574B/41
AIRW- 31.01.78 AIRWICK IND INC D22 =J5 4110-990
Gel compsn. for deodorising air - B/37
AJIN 27.12.77 AJINOMOTO KK B05 D16 E16 =FR 2413-465
L-Glutamic acid prodn. by a cultivation process - 62517B/34
*AJIN 15.02.78 AJINOMOTO KK D16 (D13) *J5 4110-363
Clear, tasty, sweet and sour seasoning prodn. - 74122B/41
*AJIN 15.02.78 AJINOMOTO KK D16 (D13) *J5 4110-364
Bacterial extract prepn., suutable for seasoning use - 74123B/41
*AJIN 22.02.78 AJINOMOTO KK A81 D23 E19 *J5 4112-385
Material for solidifying waste edible oil - 74390B/41
AKER- 20.02.78 AKERS MEK VERKSTED D15 H01 J01 =NO 7800-583
Water filter for removing microorganisms, e.g. marine algae - 63493B/35
*AKIY/ 16.02.78 AKIYAMA T D21 *J5 4110-336
Prepn. of skin protective agent for use in cosmetics - 74116B/41
ALBR 09.12.77 ALBRIGHT & WILSON LTD D25 E19 =J5 4112-388
Prepn. of conc. surfactant mixt. forming liq. lamellar phase - 47415B/26
ALBR 20.03 78 BUSH BOAKE ALLEN LT D13 #NL 7802-980
Flavouring agent pepper cinnamon or turmeric emulsion prepn. - 70165B/39
ALFA 31.01.78 ALFA LAVAL AB D16 E17 =J5 4110-387
Continuous prodn. of ethanol - 60966B/33
*AMCY 17.07.78 AMERICAN CYANAMID CO B03 C02 D16 *US 4169-891
Controlling swine dysentery - 75233B/41
*AMLM= 22.09.76 AS MOLD MYCOLOGY D16 *SU -636-533
Wine maturation quality control - 74696B/41
ANIS 27.03.75 ANIC SPA D23 E13 =DS 2612-749
Cyanomethyl-substd tetrahydropyran- or -furane derivs - 76212X/41
ANIS 03.01.78 ANIC SPA B05 D23 E17 =FR 2413-350
Methyl-heptenone prepn. for use as terpene intermediate - 45685B/25
*ANVR 28.12.77 AGENCE NAT VALORISATION D16 *FR 2413-466
Microcalorimeter for biological experiments in controlled atmos. - 73914B/41
ARIA/ 25.01.78 ARIAS J V D15 =SW 7900-450
Prevention of corrosion and scaling inside water pipes - 52561B/29
*ARMY= 25.04.77 ARMYANSK AGRIC MECH D14 *SU -643-117
Feedstuffs briquetting press - 75013B/41
*ASAG 17.02.78 ASAHI GLASS KK A88 D15 J01 (A26) *J5 4110-181
Semipermeable membrane for reverse osmosis, dialysis etc. - 74033B/41
*ASAG 17.02.78 ASAHI GLASS KK A88 D15 J01 (A26) *J5 4110-182
Selectively permeable membrane for osmosis, dialysis, etc. - 74034B/41
ASAH 22.03.73 ASAHI CHEMICAL IND KK A11 D15 F01 =J7 9028-666
Treatment of waste water from viscose rayon plants - 85196W/52
ASAH 06.08.73 ASAHI KASEI KOGYO D23 =DS 2462-504
Extracting flavouring agents and perfumes from foodstuffs and flowers - 13782W/08
*ASAH 17.02.78 ASAHI CHEMICAL IND KK D15 J03 *J5 4110-646
Water treatment process - 74157B/41
*ASAH 20.02.78 ASAHI CHEMICAL IND KK A91 D15 (A14) *J5 4110-187
Anion exchange membrane prodn. - 74037B/41
*ASAH 22.02.78 ASAHI CHEMICAL IND KK D15 *J5 4112-380
Pure water prodń. with ion exchange resin - 74386B/41
*ASAH 23.03.78 ASAHI KASEI KOGYO D16 J04 *DT 2911-033
Membrane potential of vesicles determn. - 73829B/41
*ASAH- 20.02.78 ASAHI ENG KK D15 *J5 4110-650
Treatment of nitrogen and/or phosphorus-contg. waste water - 74159B/41
*ASGE= 05.08.77 AS USSR GEOCHEM D15 J01 *SU -643-167
Degasser for liquids e.g. aq. waste - 75026B/41
*AUTO= 20.07.76 AUTO IND TECHNOL A97 D25 E16 M12 *SU -639-924
Cleaning compsn. for metal surfaces - 74747B/41
AZAR/ 28.12.77 AZAROV N N D15 J03 #FR 2413-326
Water desalination cell - 47279B/26

*BABW 00.00.77 BABCOCK-BSH AG D11 *DT 2812-122
Drying of wheat gluten - 73701B/41
BADI 26.01.78 BASF AG A60 D18 E16 G02 (A82) =J5 4110-248
Stabilising hydrazine crosslinking agents - 61792B/34
BADI 21.02.78 BASF WYANDOTTE CORP A97 D23 F09 =NO 7900-570
Recovery of tall oil from tall oil soap - 42305B/22
*BADI 08 06.78 BASF AG D18 *DS 2825-081
De-liming limed hides - 73687B/41
BAKP 24.11 70 BAKER PERKINS LTD D11 #NL -161-340
Biscuits prodn - 39853S/23
BAKP 06.04.79 BAKER PERKINS HOLDINGS S D11 =GB 2017-480
Bowl mixer with rotary and planetary action agitator - 44099B/24
*BANY 14.02.78 BANYU PHARM CO LTD B02 D16 *J5 4110-394
Cephapirin prepn. - 74133B/41
BEGH- 30.12.77 BEGHIN-SAY D22 F07 =FR 2413-048
Breeches-type disposable napkin for babies - 26005B/14
BEIE 16.02.78 BEIERSDORF AG A96 D22 L02 =J5 4110-685
Plaster compsn. contg. strongly crosslinked polyvinyl ester - 47216B/26
*BELG= 01.08.77 BELGORCD MEKHANOBRC D15 *SU -643-169
Sludge water clarifier operation - 75028B/41
BERG 05.03.75 BERGWERKSVERBAND GMBH D15 =CA 1063-037
Waste water and sewage purificn. plant - 57869X/31
*BERG- 22.03.78 FORSCH BERGHOF GMBH D15 K05 M25 *DT 2812-507
Selective removal of heavy metal ions from aq. soln. - 73718B/41
BERG- 08.05.79 BERG & BERG AB D22 =SW 7903-983
One-piece highly absorbent sanitary towel - 66551Y/37
BETZ 08.09.75 BETZ LABS INC A97 D15 (A13 A14) =CA 1062-983
Controlling formation deposition of scale in aq. systems - 05706Y/04
*BIEB/ 29.03.78 BIEBRACH M D22 F09 *DT 2813-421
Perforated multiple crepe paper and tissue mat assembly - 73738B/41
*BIOT- 31.03.78 BIOTECHN FORSCH MBH B04 D16 *GB 2017-754
Forming hybrid bacteria - 73965B/41
BLEN 19.03.77 BLENDAX WERKE SCHNEIDER B07 D21 (B05) =US 4169-885
Filled capsules or tablets for dental or mouth-care - 69148A/39
BOEF 19.06.72 BOEHRINGER MANNHEIM GMBH B04 D13 =SU -639-487
Triglyceride determn by lipase saponifcn - 79403U/52
BOEF 20.03.78 BOEHRINGER MANNHEIM GMBH A89 B04 D16 J04 =GB 2017-908
Analytical determn. of aipha amylase - 69916B/39
BOEF 20.03.78 BOEHRINGER MANNHEIM GMBH A89 B04 D16 J04 =NL 7901-699
Analytical determn. of alpha amylase - 69916B/39
BOEH 21.02.78 BOEHRINGER CH SOHN D25 =NO 7900-545
Foamable compsn. for cleaning heating elements - 63335B/35
BOEH 21.02.78 BOEHRINGER SOHN C H D25 =SW 7901-508
Foamable compsn. for cleaning heating elements - 63335B/35
BRAB- 02.01.73 .BRABENDER OHG D11 =DS 2300-039
Dough kneading machine - 52196V/29
BRAS- 30.01.78 BRASSERIES KRONENBO D16 E17 J04 =J5 4113-396
Analytical appts. for measuring alpha-di:ketone concn. - 25979B/14
BRAT/ 09.01.65 BRATLAND A D13 =NL -161-342
Low fat whippable cream - 17277R/11
BRBL 25.01.78 BRAUNSCHWEIG MASCH D17 =GB 2017-516
Continuous centrifuge for sugar prodn. - 56503B/31
*BRIN/ 02.12.76 BRINKMANIS R A D13 *SU -642-316
Purificn. of crude vegetable phospholipid extract. - 74879B/41
BROV 06.03.78 BBC BROWN BOVERI AG D15 J01 =DT 2812-819
Filtering flocculated drinking or waste water, or non-aq. suspensions - 68578B/38
BRPE 21.02.78 BRITISH PETROLEUM LTD D15 H05 #SW 7801-978
Oil removal from oily sludge - 63421A/36

CADB 17.08.73 CADBURY LTD D13 =NL -161-344
Milk chocolate prodn. with use of milk powder - 16409W/10
CADB 17.08.73 CADBURY LTD D13 =NL -161-345
Milk chocolate prodn. with use of milk powder - 16410W/10
CADB 17.02.78 CADBURY INDIA LTD D13 #J5 4111-507
De-gumming sal seed fat glyceride(s) - 56218B/30
CADB 17.02.78 CADBURY INDIA LTD D13 #J5 4111-508
Cocoa butter substitute - 60959B/33
*CAMP- 12.12.77 CAMPBELL SOUP CO D14 J01 *US 4169-787
Sepg. materials of different specific gravity - 75179B/41
CANP 22.12.75 CANADA PACKERS LTD D12 E13 =NL -161-341
Meat-curing solns. contg. (1,2,3,4)-tetrahydro (6 -alkoxy quinolines - 48207Y/27
CANT- 28.07.75 CANTON TEXTILE MILL D15 =CA 1063-265
Liquid aeration by passage through restricted orifice - 68565X/36
CANT- 28.07.75 CANTON TEXTILE MILL D15 =GB 1553-906
Liquid aeration by passage through restricted orifice - 68565X/36
CARL- 01.04.78 CARLE & MONTANARI S D11 #DT 2814-117
Wafer cutting and feeding machine - 58110B/32
*CELA 05.01.78 CELANESE CORP A11 B04 D17 H01 (A97) *US 4169-945
Prodn. of alkyl ether derivs. of poly:galactomannan gum - 75258B/41
CHEM- 08.05.70 CHEMADEX D17 =DS 2123-095
Sugar beet washer and dryer - 74226S/47
*CHER= 01.07.77 CHERKASK MECH ENG D13 *SU -641-932
Appts. for cream butter continuous prodn. - 74772B/41
CHET 06.05.76 CHEMETRON CORP D12 =CA 1063-100
Ground meat mixer - 53812Y/30
CHIM- 27.01.78 CHIMICASA GMBH B05 C03 D16 (D13) =J5 4110-310
Terpene(s) steam-distilled from aromatic plants - 40655B/22

*CHIN 29.03.76 CHINOIN GYOGYSZER B05 D16 *HU T017-055
Gentamycin, sisomycin and garamine prepn. - B/41
CHIN 01.07.77 CHINOIN GYOGYSZER A97 D13 (A11) =HU T017-047
Food flavours contained in cyclodextrin complex - 78426A/44
*CHIN= 16.08.77 CHEM IND RES PLAN A96 D21 *SU -642-346
Nail lacquer and facial cosmetic cleanser - 74908B/41
*CHIR- 05.04.78 CHIRON SA D13 *BE -875-334
Uncooked food prod. contg. meat or fish and cereals - 73612B/41
CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) =SW 7901-651
Elimination of heavy metal ions from waste waters - 63162B/35
COKE 30.12.77 COCA-COLA CO D23 E15 =FR 2413-351
Substd.-cyclohex-3-en-1-one cpds. useful as perfume materials - 09884B/05
*COLG 01.07.75 COLGATE PALMOLIVE CO D37 H09 *US 4169-709
Artificial fireplace log - 75138B/41
COLG 10.05.76 COLGATE PALMOLIVE CO A96 D22 (A11 A14) =CA 1062-898
Absorbant pads with enhanced absorption capacity - 63102Y/36
COLG 17.03.78 COLGATE PALMOLIVE CO A97 D25 E19 =PT --69-037
Conc. single phase liq. detergent-softener compsn. - 17866B/09
COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 F07 =DT 2910-556
Disposable tampon or towel - 56316B/31
COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 =DT 2910-590
Absorbent pad for sanitary towel, disposable napkin, etc. - 69951B/39
COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 =DT 2910-591
Mfg. absorbent pad for sanitary towel, disposable napkin, etc. - 69952B/39
COLG 27.03.78 COLGATE PALMOLIVE CO A96 D22 =GB 2017-505
Mfg. absorbent pad for sanitary towel, disposable napkin, etc. - 69952B/39
*COLG 08.06.78 COLGATE PALMOLIVE CO A96 D22 F07 *BE -876-865
Throwaway sanitary articles - 73668B/41
*COLG 09.06.78 COLGATE PALMOLIVE CO A96 D22 F07 *BE -876-791
Throwaway sanitary products e.g. napkin - 73650B/41
COLL/ 19.02.69 COLLET P D13 =DS 2006-742
Fruit pulp extractor - 06961S/04
CORD- 13.04.73 KARTOFFEL CORDES & C03 D16 (D13) =HU T016-992
Drying of fermenter sludge - 76868V/44
CPCZ 23.12.72 CENTRALNE LAB PRZEM C03 D13 =SU -643-069
Animal feed of heat treated potato pulp - 10913W/07
*CSIR 28.11.77 COMMONWEALTH SCIENT ORG A91 D15 *J5 4083-092
Ion exchange resin prodn. for use in chromatography columns - 73996B/41
CTPR 17.02.78 COTTON INC C03 D13 E17 F09 (E13) #J5 4112-209
Chemical de:lintering cottonseed hulls - 45562A/25
*CYTH- 29.12.77 CYTHO SARL D21 *FR 2413-093
Slimming products contg. extract of Centella asiatica - 73890B/41

DAAG 21.02.73 DAINIPPON SEITO KK D13 =J4 9124-242
Beverage contg. protein produced by microorganisms - 74592B/41
*DAAG 21.02.73 DAINIPPON SEITO KK D13 *J7 9011-379
Beverage contg. protein produced by microorganisms - 74592B/41
*DAGM- 29.03.78 DAGMA DEUT AUTOMATE D15 *DT 2813-583
Dissolving carbon di:oxide in water - 73743B/41
*DAHL/ 01.02.78 DAHLIN C W B06 D21 E33 L02 (B07) *US 4169-796
Forming a dispersion of di:calcium phosphate in sodium montmorillonite - 75186B/41
*DAIK 30.03.78 DAIKIN KOGYO CO LTD D12 *GB 2017-887
Appts. for chilling poultry carcasses - 73983B/41
*DAIK- 30.03.78 DAIKIN PLANT CO LTD D12 *GB 2017-887
Appts. for chilling poultry carcasses - 73983B/41
*DAIR= 16.08.77 DAIRY PROD AUTOM SPEC D13 *SU -643-143
Milk casein washing trough - 75019B/41
*DAIW 15.02.78 DAIWA SPINNING KK A97 D12 *J5 4110-356
Prodn. of protective casings for ham, sausages, etc. - 74120B/41
*DAIW 15.02.78 DAIWA SPINNING KK A97 D12 *J5 4110-357
Prepn. of protective casings for meat - 74121B/41
DALM- 03.11.76 DALMOR PRZED POLOWOW DAL D12 =DS 2749-293
Machine to extract edible muscles from crustacea - 19714A/11
DCAF 16.03.76 DCA FOODS INDS INC D11 =GB 1553-925
Extruding dough products, esp. doughnuts, with liquid filling - 26833Y/15
*DEAK 28.03.78 AKAD WISSENSCHAFT DDR D13 *HU T017-000
Prepn. of low-calorie foods, esp. spreadable prods. - B/41
*DERR- 17.02.78 DERRYDOWN DISPOSABL D22 F04 *GB 2017-509
Absorbent pad e.g. for nappy - 73926B/41
*DEUB/ 14.02.78 DEUBNER F D15 *DT 2905-251
Domestic waste water heat recovery - 73805B/41
DEVN 14.12.73 MACH DEVENTER BV D15 J01 =NL -161-365
Sepn. of oil from water - 45426W/27
DIAS 21.06.73 DIAMOND SHAMROCK CORP D15 =CA 1063-062
Electrosanitizing waste water - 01763W/01
*DIDI 05.06.78 DIDIER-WERKE AG A88 D15 *BE -876-759
Air inlet pipe for gas distribution in liq. - 73639B/41
*DIER 30.04.68 DIERKS & SOHNE D11 *NL -161-339
Dough kneading appts. comprising rotating tub - 74667B/41

*DIVE 06.06.78 DIVERSEY CORP A88 D13 J01 (D15 D16) *BE -876-788
Multielement pipe filter for milk, wine effluent etc. - 73649B/41
*DNCH= 27.12.76 DNEPR CHEM-TECH D13 G03 J01 *SU -643-166
Liquid-liquid or liquid-solid systems extn. unit - 75025B/41
*DNII 20.02.78 DAINIPPON INK INST CHEM B05 D16 *J5 4110-389
Coenzyme/q:10 prepn. - 74128B/41
*DNIN 20.02.78 DAINIPPON INK CHEM KK B05 D16 *J5 4110-389
Coenzyme/q:10 prepn. - 74128B/41
*DORO= 18.05.77 DOROGOMILOVO PLASTIK WKS A96 D21 (A17 A23) *SU -643-153
Material for modelling dentures - 75022B/41
DRIA- 11.02.78 DRIAM METALLPRODUKT D14 =GB 2017-886
Granulates esp. pastilles coated and dried in revolving drum - 61638B/34
*DUNK/ 02.03.78 DUNKERS K R D15 *DT 2907-350
Overflow water relief system - 73807B/41

*EBAI 22.02.78 EBARA INFILCO KK D15 *J5 4112-557
Dewatering sludge from e.g. water, sewage or night soil treatment 74404B 41
EBAR 03.03.76 EBARA MFG KK D12 J01 (D22) =J7 9028-312
Animal feed prodn. waste gas purificn. - 74704Y/42
EGER/ 29.03.78 EGER G D16 =DT 2813-521
Mono:karyons prodn. from di:karyotic Basidiomycetes strains 71712B/40
EGER/ 29.03.78 EGER G D16 =GB 2017-753
Mono:karyons prodn. from di:karyotic Basidiomycetes strains 71712B/40
*ERNS/ 09.06.78 ERNST M D25 G04 *BE -876-778
Cleaning industrial floors using tacky fibrous compsn. - 73647B/41
*ERNS/ 05.06.79 ERNST M A97 D25 G04 *BE -876-777
Cleaning product for removing dust from floors - 73646B/41
ESSO 03.01.78 EXXON RES & ENG CO D15 E36 J01 =FR 2413-109
Non-stoichiometric carbon-sulphur cpds. - 51262B/28
*ETHE/ 10.01.78 ETHERINGTON A B D15 *US 4169-878
Aerobic composter for sewage and kitchen waste - 75228B/41

FARB 30.03.72 BAYER AG A14 B04 D16 (A96 A97) =DS 2215-509
Bonding proteins esp enzymes - 62009U/42
FARB 22.03.75 BAYER AG D15 =CA 1063-263
Biological treatment of effluent contg. activated sludge - 75668X/41
FARB 17.05.75 BAYER AG A96 B07 D21 =CA 1063-023
Granulates and powders for salves - 90847X/49
FARB 10.10.77 BAYER AG D22 J09 =NL 7815-030
Burning transiently explosive gases - 31931B/17
FARH 30.11.68 HOECHST AG D25 E36 =NL -161-420
Manganese elimination from phosphate solns - 39687R/22
FARH 05.12.70 HOECHST AG D16 =SU -640-639
Control of foaming reactions - 38970T/24
FARH 20.08.77 HOECHST AG D13 E17 (D21 E16) =DT 2813-204
Simultaneous prepn. of fatty acid nitrile(s) and glycerol - 18378B/10
*FARH 23.03.78 HOECHST AG D18 E17 (D22) *DT 2812-682
Desalting aq. glycolic acid solns. - 73722B/41
*FARH 23.03.78 HOECHST AG D18 E17 (D22) *DT 2812-683
Removing salt from glycolic acid soln. - 73723B/41
*FARH 31.03.78 HOECHST AG A92 D12 *DT 2813-847
Tubular package sheath - 73767B/41
FIRM 09.04.74 FIRMENICH SA B03 D13 E13 =CA 1062-954
Enhancing sweetness of foods or drinks - 72766W/44
*FJIE 18.02.78 FUJI ELECTRIC CO LTD D15 E36 J04 *J5 4110-895
Determn. of total nitrogen content of waste water - 74175B/41
FLAM- 18.06.75 FLAMBEAU PAPER CO D17 J01 =CA 1063-036
Concn. of chemical prods. by activated carbon adsorption - 13510Y/08
FMCC 10.02.77 FMC CORP D14 =US 4169-408
Cooker-cooler for food prods. in cans. jars sachets etc. - 42245A/24
*FOOD= 02.08.77 FOOD IND AUTOM RES D16 *SU -639-930
Alcohol three-column distillation unit control - 74748B/41
FRAU 28.12.77 FRAUNHOFER-GES A96 B04 D16 (A26) =FR 2413-400
Stabilised, insolubilised biochemical products - 31618B/17
FRAU 28.12.77 FRAUNHOFER-GES FORD ANGE A26 B04 D16 (A96) =FR 2413-415
Silicic acid hetero-polycondensates - 52663B/29
FRAU 28.12.77 FRAUNHOFER-GES FORD ANGE D15 J01 =FR 2413-416
Silicic acid hetero-polycondensate prodn. - 52664B/29
*FRIT- 21.03.78 FRITZSCHE DODGE & O D23 E15 (D13 D21) *NL 7902-213
Alkyl-substd. bi:cyclo-nonenone and -nonanone cpds. - 74671B/41
FRNG 01.09.72 FRINGS H FA D15 =NL -161-560
Immersed aerating device - 40387V/22
FRNG 22.12.75 FRINGS H FA D16 =CA 1063-053
Vinegar prodn. with high acetic acid concn. - 47311Y/27
FUJI- 28.00.75 FUJI SEIYU KK D13 =J7 9028-845
Shea fat with improved tempering properties - 73017X/39

GALL- 20.01.78 GALLAHER LTD D18 E36 H06 =J5 4110-188
Catalyst for oxidn. of carbon mon:oxide to di:oxide - 54504B 30
GALL- 20.01.78 GALLAHER LTD D18 E36 H06 =J5 4110-400
Smoking product contg. catalyst for oxidn. of carbon mon:oxide 54506B/30

GALL- 20.01.78 GALLAHER LTD D18 E36 H06 = J5 4112-390
Catalyst for oxidn. of carbon mon:oxide to di:oxide - 54504B/30
GEBA- 27.12.77 GEBA-GERATEBAU GMBH D12 = FR 2413-037
Shrimp peeling machine - 29804B/16
GENM 27.05.70 GENERAL MILLS INC D13 = J7 9028-461
Meat substitute prodn from orientated protein fibres - 76427S/48
GENM 02.01.73 GENERAL MILLS CHEM A91 D15 = J7 9028-669
Clarification of water contg. org. cpds - 62841V/35
*GENO 19.12.77 GENERAL FOODS CORP C03 D13 *J5 4085-966
Prodn. of dog food with improved taste - 74000B/41
GIVA 17.03.72 GIVAUDAN L & CIE SA D23 E15 = NL 7904-191
Perfumery compsns - contg 3-isopropyl - 60546U/41
GIVA 25.11.77 GIVAUDAN L & CIE SA A60 C02 D22 E13 = FR 2413-377
Antibacterial, fungicidal isothiazole derivs. - 44253B/24
GIVA 25.11.77 GIVAUDAN L & CIE SA A60 C02 D22 E13 = FR 2413-378
Antibacterial, fungicidal isothiazole derivs. - 44253B/24
*GOAL/ 02.01.78 GOALABRE R D11 *FR 2413-036
Machine for automatic mfr. of pancakes etc. - 73883B/41
*GREC 15.02.78 GREEN CROSS CORP B04 D16 *J5 4110-384
Medium for culturing human lymphocyte strain - 74125B/41

*HANE/ 15.02.78 HANEDA T B04 D16 *J5 4110-316
Injectable oil soln. of Hydrophis sp. lipid - 74104B/41
*HAUB/ 05.04.78 HAUBNER J W D13 *US 4169-409
Vegetable peeling appts. with rotating drum - 75101B/41
HAYA/ 28.08.70 HAYASHIBARA K D17 = J7 9028-457
Fractionation of aryloses - 16216T/10
HENK 16.05.70 HENKEL KG AUF AKTIEN D21 (D23) = DS 2024-051
Cosmetic compsns contg superfatting agents - 73611S/46
HENK 10.10.74 HENKEL KG AUF AKTIEN A97 D25 E37 = CA 1062-984
Stable alumino or boro silicate suspensions contg. dispersants - 31842X/18
HENK 23.05.75 HENKEL KG AUF AKTIEN D25 E16 G04 (E33 E34) = CA 1062-914
Compsn. for clearing pipes blocked with hairy material - 90627X/49
HENK 29.12.77 HENKEL KG AUF AKTIEN D25 E33 = FR 2413-138
Machine washing and cleaning solid material - 58554B/32
HENK 23.03.78 HENKEL KG AUF AKTIEN D21 E23 = DT 2812-678
Hair dyeing compsns. - 72134B/40
HENK 25.03.78 HENKEL KG AUF AKTIEN D16 = NL 7901-712
Extruding live yeast granulate - 72257B/40
HERT/ 24.08.77 HERTMAN I B04 C03 D16 = US 4169-886
Fowl cholera vaccine against Pasteurella multocida - 18510B/10
HETO 28.06.76 HETEROCYCLIC CPDS INST D12 = DS 2729-094
Solid particles condensed from fish roe soln. or suspension - 04701A/03
*HILL/ 20.01.77 HILLS C H A91 D15 *CA 1062-953
Removal of off-flavour from maple syrup - 73672B/41
*HITG 20.02.78 BABCOCK-HITACHI KK D15 *J5 4110-975
Fresh water prodn. from sea water or polluted water - 74208B/41
HOFF/ 28.02.78 HOFFMANN K D15 E34 (E31) = DK 7900-835
Oxygen dispenser for fish tanks - 66442B/37
*HOHN 18.02.78 HOHNEN OIL KK D13 *J5 4110-210
Barbecue oil prepn. - 74046B/41
*HOHN 22.02.78 HOHNEN OIL KK B05 C01 D13 E11 (D23) *J5 4112-825
Preventing phospholipid heat colouration - 74469B/41
*HOKK- 14.08.75 HOKKAIDO TOGYO KK C04 D16 *J7 9028-348
Inhibiting spreading of powdered fertiliser - 74616B/41
*HORW/ 01.04.78 HORWOOD N D18 *GB 2017-534
Spraying the whole surface of leather - 73932B/41
*HOWA- 21.02.78 HOWARD MACH LTD C03 D13 *GB 2017-515
Machine for mixing and dispensing animal feed - 73928B/41
*HYDR= 22.07.75 HYDROTECH MELIOR A97 D15 H01 (A11 D16) *SU -642-352
Rock-cutting fluid contg. starch prods. - 74914B/41

ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 = DK 7900-738
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 = NO 7900-393
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 = SW 7901-449
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
ICIL 08.03.79 IMPERIAL CHEM INDS LTD A25 D15 H03 (A97 H08) = GB 2017-719
Surfactant compsn. for emulsifying oils in aq. media - 72160B/40
IDEK 21.02.74 IDEMITSU KOSAN KK D15 = DS 2507-002
Ion exchange water purificn - 59107W/36
IDEK 07.09.74 IDEMITSU KOSAN KK C03 D16 (D13) = J7 9028-467
Yeast extract prodn from yeast suspension - 33117X/18
*IJIC- 30.03.78 IJICHI SHUKEIJO CO LTD D12 *GB 2017-887
Appts. for chilling poultry carcasses - 73983B/41
*ILLI- 03.10.77 ILLINOIS WATER TREA D16 *J5 4089-084
Inactivation of enzymes - 74004B/41
INFL 18.08.69 INT FLAVORS & FRAGR INC D23 E14 = NL -161-427
Indane derivs as odorants - 08121S/04
INFL 11.03.70 INT FLAVORS & FRAGR INC D23 E15 = NL -161-448
Macrocyclic lactone prepn - 62444S/39
INFL 19.09.74 INT FLAVORS & FRAGR INC D13 E15 (D18 D23) = CA 1062-904
Trimethyl-cyclohexenyl-acetaldehyde prodn. - 27673X/15
*INFL 19.02.75 INT FLAVORS & FRAGR INC D13 E13 *NL 7903-474
Enhancing the nutty taste of meat flavoured foods - 74672B/41
*INFL 08.03.78 INT FLAVORS & FRAGR INC D13 E13 *US 4169-900
Augmenting or enhancing foodstuff flavour of aroma - 75237B/41
INLI 31.05.73 INSTRUMENTATION LAB INC B04 D16 = DS 2425-746
Large scale, safe cell propagation - 85951V/50
INMR 30.06.77 INST MERIEUX B04 C03 D16 = US 4169-761
Bulk culture of viruses in suspension of cells and collagen fibres - 01906B/02
INRG 06.06.75 INST NAT RECH AGRON C03 D13 (D17) = GB 1553-890
Feedstuff for bees based on maltose syrup - 94700X/51
INRG 27.10.77 INST NAT RECH AGRON C02 D13 = J5 4111-474
Orotic acid and urea feedstuff additive - 18062B/10
INSF 21.03.78 INST FRANCAIS DU PETROLE A97 D15 E17 H03 (D25) = NL 7902-181
Cleaning polluted surfaces, esp. water covered with oil - 68136B/38
IREK- 20.03.73 IREKS-ARKADY GMBH D13 = NL -161-346
Freezing appts. giving individual portions of flavoured ice - 56782V/32

JAEG/ 19.01.78 JAEGER K H B04 D16 = PT --69-100
Antiblastic immunological preparations - 39018B/21
*JAPE 20.02.78 JAPAN EXLAN KK A81 C04 D15 *J5 4112-553
Solidification of sludge into granules - 74401B/41
*JAPE 20.02.78 JAPAN EXLAN KK A81 C04 D15 *J5 4112-554
Solidification of sludge into granules - 74402B/41
JEGE/ 19.01.78 JEGER C H B04 D16 = J5 4113-411
Antiblastic immunological preparations - 39018B/21
JEYE- 21.03.78 JEYES GROUP LTD A97 D25 = DT 2910-955
Preparing tablets for cleaning lavatories - 54534B/30
JEYE- 21.03.78 JEYES GROUP LTD A97 D25 = NL 7902-174
Preparing tablets for cleaning lavatories - 54534B/30
JOHJ 23.06.76 JOHNSON & JOHNSON A96 D22 = CA 1062-899
Absorbent bandage contg. thin flexible support film - 02572A/02
JOHJ 21.02.78 JOHNSON & JOHNSON A97 D22 F09 = SW 7901-488
Absorbent pad for disposable napkins, sanitary towels etc. - 63155B/35
*JOHJ 17.04.78 JOHNSON & JOHNSON A96 D22 *US 4169-472
Surgical drape with liquid collection bag - 75107B/41
JOHS 16.01.78 JOHNSON S C & SONS INC D25 E12 (E16) = J5 4112-907
Non-scratching liquid scouring compsn. - 50731B/27

KABI 06.10.75 KABI AB B04 D16 J04 = HU T017-085
Determining enzymatic and other biological activity - 11217Y/07
KAKY 28.12.77 KAKENYAKU KAKO CO B04 D16 = FR 2413-094
Straight chain peptide type antibiotics K 582 M - 51279B/28
*KANE 23.02.78 KANEBO KK A96 D21 E12 (E17) *J5 4112-906
Powdered shampoo compsn. - 74503B/41
*KANF 10.01.78 KANEGAFUCHI CHEM KK A97 B05 D16 *J5 4110-388
Microbiological prepn. of coenzyme/Q-10 - 74127B/41
*KANF 13.02.78 KANEGAFUCHI CHEM KK B04 D16 *J5 4110-390
Prepn. of rifamycin S - 74129B/41
*KANF 16.02.78 KANEGAFUCHI CHEM KK B04 D16 *J5 4110-391
Rifamycin S prepn. from rifamycin SV-contg. culture - 74130B/41
*KANF 17.02.78 KANEGAFUCHI CHEM KK B04 D16 *J5 4110-392
Rifamycin B prepn. - 74131B/41
*KANF 17.02.78 KANEGAFUCHI CHEM KK B04 D16 *J5 4110-393
Fermentative prepn. of rifamycin-B - 74132B/41
*KANK- 22.02.78 KANKYO ENG KK D15 *J5 4112-556
Treating organic effluent using hydrogen peroxide - 74403B/41
KAOS 27.04.74 KAO SOAP KK A97 D25 E19 = DS 2420-647
Bleaching compsn. contg. inorganic peroxide - 76001W/46
KAOS 13.01.75 KAO SOAP KK A97 D25 E19 = J7 9028-847
Liq dish washing detergent with mild, foaming action - 65922X/35
KAOS 13.01.75 KAO SOAP KK A97 D25 E17 = J7 9028-848
Low foam detergent - 65923X/35
KAOS 20.01.75 KAO SOAP KK A97 D13 E17 = J7 9028-464
Agents to improve elasticity, whiteness and texture of paste foods - 69446X/37
KAOS 16.09.75 KAO SOAP KK D21 E17 (E16) = DS 2641-206
Transparent, high viscosity liq. shampoo - 05753Y/04
KAOS 11.11.75 KAO SOAP KK A97 D25 E16 (A25 E17) = J7 9028-849
Anionic builder free liq. detergent compsn. - 45789Y/26
KAOS 11.04.77 KAO SOAP KK D23 E15 = US 4169-958
Alkoxy-homo-isotwistane perfume components - 76805A/43
*KATA- 20.02.78 KATAYAMA KAGAKU KOG A60 C03 D22 E16 *J5 4110-322
Antifouling compsn. for use in cooling systems - 74107B/41
*KATA- 20.02.78 KATAYAMA KAGAKU KOG C03 D22 E16 F06 *J5 4110-323
Antifouling agent for cooling water systems, fishing nets etc. - 74108B/41
KAWA- 10.11.72 KAWAKEN FINE CHEMIC D21 E11 = J7 9028-846
Fatty acid amidoethylpolyoxyethylenyl phosphates for cosmetic soaps - 26417W/16

KAWA/ 03.12.71 KAWAZOE A D18 E16 = J4 8061-601
Treating leather with di:alkylamino-2-butenyl sulphonate - 74634B/41
KAWA/ 03.12.71 KAWAZOE A D24 = J7 9028-403
Toilet soap - 74776U/49
*KAWA/ 03.12.71 KAWAZOE A D18 E16 *J7 9028-441
Treating leather with di:alkylamino-2-butenyl sulphonate - 74634B/41
KEMA 13.11.73 KEMANOBEL AB D16 = NL -161-503
Culture tube for microorganism analysis - 34668W/21
KENC- 16.10.67 KENCO COFFEE CO D13 = NL -161-343
Conditioning freshly roasted coffee - 53999R/30
KERN- 23.01.78 GES KERNENERGIEVER D15 = J5 4112-383
Water desalination and purification - 54635B/30
KIBU- 14.04.77 KIBUN KK D16 = J7 9028-330
Cortinellus shiitake cultivation - 90177A/50
KIMM- 16.08.77 KIMMEI INSATSU A92 D22 E37 G04 = J7 9028-235
Chemical body warmer giving off heat on shaking - 30762B/16
KITA 17.02.78 KITASATO RES INST B02 C02 D16 = J5 4110-395
Frenolicin B from Streptomyces roseofulvus ATCC 31476 - 68465B/38
*KITA 17.02.78 KITASATO RES INST B02 D16 *J5 4110-396
Deoxy:frenolicin prepn. - 74134B/41
*KITA/ 17.02.78 KITANO M C03 D13 E16 *J5 4111-480
Accelerating growth of silkworms - 74244B/41
KOBA- 10.02.75 KOBAYASHI KK D15 J01 = J5 1092-568
Adsorption appts. using active carbon powder - 74608B/41
*KOBA- 10.02.75 KOBAYASHI KK D15 J01 *J7 9028-157
Adsorption appts. using active carbon powder - 74608B/41
*KOLM/ 21.03.78 KOLMEL K D16 *DT 2812-239
Nutrient media filling in petri discs - 73706B/41
*KOMP= 01.04.77 KOMPLEKS BIRD PROC D16 *SU -642-360
Rennin extn. from lamb or calf abomasum - 74922B/41
*KOPO= 14.05.76 KRASND POLY D17 *SU -639-942
Controlled drive for diffusion appts. worm in sugar beet processing - 74749B/41
*KOTT/ 03.04.78 KOTT R D13 *DT 2814-295
Low calorie crisp, pref. chipped, meat roast snacks - 73782B/41
*KRFT 29.06.77 KRAFT INC D23 *US 4169-843
Hydrogenation of liq. oils - 75211B/41
KRUC/ 18.07.75 KRUCHEN E D18 = US 4169-706
Cleaning poultry feathers with chlorinated hydrocarbons - 07461Y/05
*KSAG= 27.06.77 KISH AGRIC INST D16 *SU -643-120
Nutrient medium for growing mushrooms - 75015B/41
KUCK/ 29.03.78 KUCKENS A D13 = DT 2813-555
Domestic prepn. of coffee infusion from ground coffee - 56329B/31
KULZ 02.06.77 KULZER GMBH A96 D22 L02 (A14) = J7 9028-413
Material for prepn. of bone cement - 72816A/41
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-474
Antitumour polysaccharide prodn. from Naematoloma sublateritium - 78918A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-475
Antitumour polysaccharide prodn. from Pholiota squarrosa - 78919A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-476
Antitumour polysaccharide prodn. from F. mokusin - 78920A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-477
Antitumour polysaccharide prodn. from Dicryophora indusiata - 78921A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-478
Antitumour polysaccharide prodn. from Phizopogon rubescens - 78922A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-479
Antitumour polysaccharide prodn. from Lycoperdon perlatum - 78923A/44
KURE 29.01.77 KUREHA CHEM IND KK B04 D16 = J7 9028-480
Antitumour polysaccharide prodn. from Calostoma japonicum - 78924A/44
KYOW 11.08.73 KYOWA HAKKO KOGYO D16 E16 (D13) = J7 9028-472
Laevo-glutamic acid prepn - 14740W/09
KYOW 17.07.74 KYOWA HAKKO KOGYO B05 D16 E16 = NL -161-502
L-Lysine production by high yield fermentation - 10537X/06
KYOW 21.08.74 KYOWA HAKKO KOGYO B04 D16 = J7 9028-471
Lipoxidase prodn - 31014X/17
KYOW 09.07.76 KYOWA HAKKO KOGYO B05 D16 E16 = US 4169-763
L:lysine prepn. - 04816A/03

LABA 12.02.75 LABATT J LTD D11 #CA 1062-950
Dry powdery gluten prod. for baking - 57789Y/33
LABO 27.12.77 LABOFINA SA A97 D25 H03 (D15) = FR 2413-460
Surfactant compsn. for treating oil slicks and beaches - 47162B/26
LAND- 31.03.78 LANDSTINGENS INKOPS A96 D21 (D22) = GB 2017-491
Disinfecting skin ointment based on alcohol - 14251B/08
LANK 19.01.78 LANKRO CHEMICALS LTD A97 D25 = J5 4112-908
Cleansing mixt. forming quick-breaking emulsion with oil - 56559B/31
LAPO/ 28.10.74 LAPOINTE J R B04 D16 #CA 1063-048
Antitumour agent against Ehrlich's tumour - 78906W/48
LEPE 27.07.74 GRUPPO LEPETIT SPA B04 D16 = CA 1063-051
Gardimycin antibiotics - 85017W/52
*LERE= 25.11.76 LENGD REFRIG IND D13 *SU -643-118
Cold storage of potatoes - 75014B/41
LICL- 31.03.78 LIC LANDSTINGENS IN A96 D21 (D22) = DT 2854-221
Disinfecting skin ointment based on alcohol - 14251B/08
LIFE- 28.12.77 LIFE SAVERS INC D13 #FR 2413-039
Flavoured chewing gum with prolonged sweetness - 45680A/25
LIOY 17.02.78 LION FAT & OIL KK A97 D25 E19 (A25 E33) = J5 4110-211
Liq. cleaning compsn. e.g. for heavy duty cleaning - 64914B/36
*LITO= 01.08.77 LITOVSK DAIRY PROD D13 *SU -643-141
Butter prodn. from pasteurised cream - 75017B/41
*LITO= 27.09.77 LITOVSK DAIRY PROD D13 *SU -643-142
Fermented milk protein-based product mfr. - 75018B/41
LOVE 22.07.70 LEO AB B04 D18 E13 = DS 2136-118
Tobacco chewing substitute - 09351T/06
LOVE 22.07.70 LEO AB A97 B07 D18 = DS 2136-119
Chewing gum contng a tobacco alkaloid - 10362T/07

MACH- 08.12.77 MACHINES CHAMBON D17 = FR 2413-618
Infrared preheat of sugar lumps between moulding and drying 24007B/13
*MAGY 27.07.76 MTA SZEGEDI BIOLOGI B04 D16 *HU T017-044
GGCC specific restricted endo:nuclease prodn. - B/41
*MALY/ 13.07.73 MALYKH M K D14 *SU -635-956
Animal feedstuffs steamer - 74695B/41
*MARR- 16.01.78 MARRODAN Y REZOLA D16 *PT --69-029
Continuous press for e.g. grapes - B/41
MASI 11.11.76 MASSACHUSETTS INST TECH A96 B04 D16 = CA 1063-050
Growing anchor dependent cells in a medium contg. a micro-carrier 21567A/12
MATS/ 31.12.70 MATSUI H B04 D16 (D13) = DS 2165-663
Medicinal dry baths - 23415T/15
*MCCO/ 16.04.76 MCCULLOUGH T J D12 *US 4169-300
Meat tenderising knives mounted on ram - 75094B/41
MCDO 03.05.76 MCDOWELL CO B04 D16 = DS 2717-982
Medium to detect Proteus microorganisms in urine - 79331Y/45
*MEAT= 30.03.78 MEAT IND RES INST D16 (D12 D13) *DT 2813-714
Lactic acid bacteria mass prepn. - 73753B/41
MEIJ 09.10.72 MEIJI CONFECTIONERY B04 D16 = J7 9028-473
Antibiotic BN 68 prepn - 06328W/04
MEIJ 04.10.77 MEIJI SEIKA KAISHA B04 D16 = US 4169-889
Broad-spectrum antibiotic BN-200 - 28137B/15
MEIJ 14.02.78 MEIJI SEIKA KAISHA B04 D16 = SW 7901-094
Antibiotics SF-2050 and SF-2050b - 61757B/34
*MERC- 29.12.77 MERCIER-SANCHEZ D16 *FR 2413-206
Non-return device for archimedean screw press - 73900B/41
MERI 12.05.77 MERCK & CO INC A97 D13 (A11) = US 4169-854
Compsn. for preparing yoghurt by direct acidification - 12402B/07
MERI 22.07.77 MERCK & CO INC B04 D16 = PT --68-284
Parainfluenza vaccine - 10360B/06
MERI 30.01.78 MERCK & CO INC B04 C03 D16 = J5 4113-424
Heat labile enterotoxin isolated from Escherichia coli - 61853B/34
MIDW- 21.08.69 MIDWEST BIOCHEM D25 = US 4169-817
Liq cleaning compsn contng stabilized enzymes - 31504X/17
*MILC- 31.03.78 MILCH-UNION OBERBAY D13 *DT 2814-056
Parmesan cheese mfr. - 73772B/41
MILE 25.09.74 MILES LABORATORIES INC D13 F01 (D12) = NL -161-514
Wet-spun vegetable protein fibres - 15025X/09
MILE 04.08.75 MILES LABORATORIES INC D13 = NL -161-347
Bland protein enriched grain gluten prepn. - 11559Y/07
MILE 15.09.75 MILES LABORATORIES INC D13 (D12) = NL -161-349
Textured protein concentrate as meat substitute - 00037Y/01
*MILE 23.03.78 MILES LABORATORIES INC D13 (D16) *DT 2909-854
L-Aminoacid-substd. polypeptide food additive prepn. - 73814B/41
MILE 27.03.78 MILES LABORATORIES INC A91 D16 (A26) = DT 2911-557
Preparing aggregate of bacterial cells esp. streptomyces olivaceus 54547B/30
*MILK= 30.03.78 MILK IND RES INST D16 (D12 D13) *DT 2813-714
Lactic acid bacteria mass prepn. - 73753B/41
*MINN 19.08.76 MINNESOTA MINING CO B05 D16 J04 *US 4169-804
Magnetically responsive composite microparticle - 75192B/41
MINN 29.12.77 MINNESOTA MINING CO A96 D21 E19 = FR 2413-085
Dentifrice contg. membrane forming material - 57996B/31
MINN 29.12.77 MINNESOTA MINING CO B05 D21 E19 = FR 2413-086
Dentifrice contg. fluoro:aliphatic calcium chelating agent - 57995B/31
MINN 29.12.77 MINNESOTA MINING CO B05 D21 E11 = FR 2413-087
Quat. ammonium organo-siloxane cpds. - 57930B/31
MINN 19.01.78 MINNESOTA MINING CO A97 D25 = J5 4110-657
Fat-removing cleansing pad - 56569B/31
MINN 23.01.78 MINNESOTA MINING CO A96 D22 G03 (A14 A81) = J5 4110-319
Porous pressure-sensitive adhesive coated tape prodn. - 25856B/13
MITC 22.02.78 MITSUI PETROCHEM IND KK A88 D15 J01 (A14 A17) = J5 4112-071
Sepg. alcoholic beverage from fermentation liquor - 63445B/35
*MITK 17.02.78 MITSUI TOATSU CHEM INC D22 J01 *J5 4110-167
Removal of malodorous components from gas - 74022B/41
MITN 14.10.75 MITSUBISHI GAS CHEM IND C03 D22 (D15) = J7 9028-449
Chemical prevention of bacterial slime in e.g. cooling water - 37389Y/2

*MITR 21.02.78 MITSUBISHI RAYON KK D15 J01 *J5 4110-994
Granular material for waste water treatment - 74223B/41

*MITR 21.02.78 MITSUBISHI RAYON KK D15 J01 *J5 4110-995
Granular material for waste water treatment - 74224B/41

MITS 17.02.75 MITSUBISHI CORP D12 =J5 1106-759
Thawing frozen meat in absence of oxygen - 74641B/41

*MITS 17.02.75 MITSUBISHI CORP D12 *J7 9028-463
Thawing frozen meat in absence of oxygen - 74641B/41

*MIYA/ 17.02.78 MIYAZOE T D21 E19 *J5 4110-335
Face powder contg. lecithin and opt. organic acid - 74115B/41

MLCW 28.12.77 BYK-MALLINCKRODT A96 B04 D16 (A26) =FR 2413-400
Stabilised, insolubilised biochemical products - 31618B/17

*MOAG= 13.09.77 MOSC AGRIC INST D13 *SU -643-145
Horse radish type plant powder prepn. - 75021B/41

*MOEN= 10.03.76 MOSC ENG-CONS INST D15 *SU -639-817
Drinking water mineralisation - 74720B/41

*MOGU 04.06.76 MOSCOW GUBKIN PETROCHEM D15 H03 *SU -639-819
Purification of effluent or ballast water from petroleum products - 74721B/41

*MOME= 17.11.76 MOSC MEAT DAIRY IND D14 *SU -640-095
Liquid food product freezing - 74759B/41

MOMO 19.07.71 MOMOI SEIMO KK A92 D16 E14 F04 (A17 A23 A60) =J4 8018-089
Prepn. of net for laver, wakame and tangle - 74618B/41

*MOMO 19.07.71 MOMOI SEIMO KK A92 D16 E14 F04 (A17 A23 A60) *J7 9028-355
Prepn. of net for laver, wakame and tangle - 74618B/41

*MONS 03.04.78 MONSANTO CO A97 D25 (A17 A26) *US 4169-934
Keto di:carboxylate copolymers and salts - 75255B/41

MOOC 30.11.72 MODOKEMI AB D25 E19 =NL -161-500
Ampholytic betaine type detergents - 27013V/15

*MORE= 01.04.77 MOSC RENNIN WKS D16 *SU -642-360
Rennin extn. from lamb or calf abomasum - 74922B/41

MORI/ 24.02.78 MORI T B04 D13 =J5 4113-415
Foodstuff with strengthening effect - 66547B/37

MOTE= 14.02.78 MOSCOW TEXTILE INST A11 D15 (A14 A91 D17) =DT 2842-368
Graft copolymers of cellulose with vinyl pyridine(s) - 64161B/35

MOTE= 14.02.78 MOSCOW TEXTILE INST A11 D15 E14 (A14 A91 D17) =DT 2845-259
Graft copolymers of cellulose - 64162B/35

*NAKA- 20.01.78 NAKANO SU-MISE KK D13 *J5 4110-366
High glutamic acid-contg, salt-free seasoning soln. prodn. - 74124B/41

*NAKA/ 20.02.78 NAKAMURA K A96 D21 (A25) *J5 4110-660
Prodn. of piled or granulated material for applying cosmetics - 74161B/41

*NAKA/ 20.02.78 NAKAMURA K A84 D22 (A11 A14 A96) *J5 4111-962
Elastic wiping tool for domestic or medical use - 74334B/41

NALC 11.11.74 NALCO CHEMICAL CO C03 D22 E16 (D15) =CA 1063-018
Aq. bis trichloromethyl sulphone emulsions prodn. - 96085X/51

NANK- 20.06.74 NANKAI SHOKUHIN KK D12 =J5 0160-456
Pickled Kibinago fish mfr. - 74640B/41

*NANK- 20.06.74 NANKAI SHOKUHIN KK D12 *J7 9028-462
Pickled Kibinago fish mfr. - 74640B/41

NATT 13.09.72 NAT STARCH & CHEM CORP A96 D21 (A13) =NL -161-357
Hair setting compsns. - 23268V/13

*NATT 20.03.78 NAT STARCH & CHEM CORP A11 D17 (A97 D13) *NL 7900-914
Cold water swelling starch prodn. - 74669B/41

NATW 27.04.77 NATTERMANN A & CIE GMBH B04 D13 (D21 D23) =DS 2718-797
Purified phosphatidyl-choline or lecithin oils - 63459A/36

NEST 21.10.74 SOC PROD NESTLE SA D13 =CA 1062-952
Instant tea powder - 34240X/19

NEST 13.07.76 SOC PROD NESTLE SA D13 #FR 2413-038
Butter prepn. by mixing fat and viscous aq. phase - 45843A/26

NEST 29.12.77 SOC PROD NESTLE SA D13 =FR 2413-042
Flavouring and colouring extract from cocoa shells - 43986B/23

NEST 20.01.78 SOC PROD NESTLE SA D13 =J5 4110-362
Coffee extract for preparing non-spurting carbonated beverage - 56550B/31

*NICA 20.02.78 NIPPON CARBIDE KOGY KK D12 *J5 4110-352
Artificial roe prodn. - 74119B/41

*NIOC 29.10.63 NIPPON OIL KK C03 D22 (D15) *J7 9028-447
Slime removal from walls of cooling pipe contg. sea water coolant - 74638B/41

*NIPT 17.02.78 NIPPON TENSAI SEITO KK D15 (D17) *J5 4110-648
Desalting and deodorising purificn. of Stephen's liquor - 74158B/41

*NIRA 20.02.78 UNITIKA KK A35 D15 E37 G06 *J5 4110-651
Treating waste liquor used to develop photosensitive resin - 74160B/41

NIRI- 06.07.73 NIPPON RISUI KAGAKU D15 =J5 0030-351
Two-stage electrolytic purification of waste water - 15632W/09

NIRI- 06.07.73 NIPPON RISUI KAGAKU D15 =J7 9028-668
Two-stage electrolytic purification of waste water - 15632W/09

NISC 27.12.77 NISSAN CHEM IND KK D17 E12 F09 M12 (D16) =FR 2413-137
Removal of calcium oxalate encrustations - 49436B/27

NISP 27.12.77 NISSIN SHOKUHIN KAISHA D11 =FR 2413-040
Noodle dough paste - 49447B/27

*NISS- 15.02.78 NISSHIN SEITO KK D17 *J5 4110-338
Sugar soln. clarification - 74118B/41

NISW 29.08.75 NISSHIN OIL MILLS KK D23 =J7 9028-844
Fats and oils puritication - 26194Y/15

*NIYU- 23.02.78 NIPPON YUKA KOGYO K A97 D25 F06 (A23 A25 A35) *J5 4112-905
Cleaning compsn. for synthetic fibre dyeing machines - 74502B/41

NMHB 11.03.75 NORDISCH MASCH R BAADER D12 =SU -638-239
Fish processing machine - 74149X/40

NMHB 23.02.78 NORDISCH MASCH R BAADER D12 #DK 7800-810
Fish skinning machine - 35308B/19

*NONO- 14.02.78 NONOGAWA SHOJI YG D21 E14 (D16) *J5 4110-337
Hair dye contg. tyrosine and tyrosinase - 74117B/41

NORV- 30.11.77 NORVIDAN ENG APS D14 =GB 2017-513
Ring mould press for fodder pellets - 42688B/23

NOVO= 03.01.78 NOVOKUIB GIPROKAUCH A60 B07 D13 E14 (B05) #FR 2413-349
Methyl-di:tert.-butyl:phenol purification - 49676A/28

NUTR- 22.02.78 NUTRIDAN ENG A/S D12 =DK 7800-963
Removing blood colour by sudden pressure drop - 63360B/35

NUTR- 22.02.78 NUTRIDAN ENG A/S D12 =NO 7900-600
Removing blood colour by sudden pressure drop - 63360B/35

NUTR- 22.02.78 NUTRIDAN ENG AS D12 =SW 7901-509
Removing blood colour by sudden pressure drop - 63360B/35

*OKAB/ 23.02.78 OKABE T D18 E13 *WP 7900-712
Tanning rawhide, with addition of urotropin to pickling bath - 75275B/41

*OMTI- 03.01.78 OMTIP SRL D15 *FR 2413-327
Comb-type powered cleaner to rake out water screening grill - 73909B/41

OPUS- 24.02.78 OPUS CHEM AB D16 E12 (D22) =DK 7900-804
Liquid or tabletted preservative for bacteriological samples - 66558B/37

OPUS- 24.02.78 OPUS CHEMICAL AB D16 E12 (D22) =NO 7900-518
Liquid or tabletted preservative for bacteriological samples - 66558B/37

OPUS- 24.02.78 OPUS CHEMICAL AB D16 E12 (D22) =SW 7802-147
Liquid or tabletted preservative for bacteriological samples - 66558B/37

OREA 11.08.69 L'OREAL SA A14 D21 E14 (A96 E24) =NL -161-490
Leuco derivs of indoanilines and indophenols - 13680S/07

OREA 15.10.74 L'OREAL SA D21 (D16) =CA 1063-028
Cosmetic prepns. contg. superoxide-dismutase enzyme - 31861X/18

OREA 30.12.77 L'OREAL SA A96 D21 E19 (A25) =FR 2413-084
Cosmetic for removing make/up from the eyes - 48993B/27

*OREA 06.04.78 L'OREAL SA D21 E14 (E13 E24) *BE -875-338
2,4-Di:hydroxy-4'-amino-di:phenylamine cpds. - 73614B/41

*OREA 06.04.78 L'OREAL SA D21 E24 *BE -875-339
Substd. alkoxyalkyl-para-phenylene:di:amine cpds. - 73615B/41

*OREA 06.04.78 L'OREAL SA D21 E34 *BE -875-340
(N)-Hydroxyalkyl-(N)-mesyl:aminoalkyl-para phenylene:di:amine cpds. - 73616B/41

*OREA 06.04.78 L'OREAL SA A96 D21 E24 *BE -875-341
Two/part hair colouring using oxidn. dyes - 73617B/41

*OREA 06.04.78 L'OREAL SA D21 E24 *BE -875-342
Two/part hair colouration using oxidn. and direct dyes - 73618B/41

*OREA 06.04.78 L'OREAL SA D21 E24 *BE -875-343
Oxidation dye compsns. for hair dyeing - 73619B/41

ORIG- 11.08.75 ORIGINAL HANAU QUAR D22 L03 =GB 1553-898
Antimony iodide discharge lamps - 15840Y/09

ORON- 30.10.73 ORONZIO DENORA IMP D15 J03 =CA 1063-064
Vertical electrolytic cell battery for water sterilisation - 34542W/21

*ORSH= 16.08.77 ORSHANKA MILK COMB D13 *SU -643-143
Milk casein washing trough - 75019B/41

OSTS 24.06.75 CHEMIE-LINZ AG D15 E35 H09 =CA 1062-879
Pure conc. ammonia obtd. from waste water - 25350Y/15

OSTS 24.06.75 CHEMIE-LINZ AG D15 E35 H09 =CA 1062-879
Pure conc. ammonia obtd. from waste water - 25350Y/15

PASE 02.01.78 PASSAVANTW MICHELBACHER D15 =FR 2413-328
Sewage purification system - 51093B/28

*PASE 22.03.78 PASSAVANTW MICHELBACHER D15 *DT 2852-966
Gravity sepn. e.g. of petrol, oil or fat, and water - 73799B/41

*PASE 02.06.78 PASSAVANTW MICHELBACHER D15 J01, *BE -876-731
Granular bed filter partic. for oil polluted water - 73632B/41

PEMB- 20.05.77 PEMBERTON CA & CO D12 #CA 1063-059
Removing hangers from meat - 15439B/08

PERM- 24.03.78 PERMELEC ELECTRODE D15 E36 J03-M13 =GB 2017-756
Electrode for aq. metal halide soln. electrolysis - 72055B/40

PERM- 24.03.78 PERMELEC ELECTRODE D15 E36 J03 M13 =NL 7902-210
Electrode for aq. metal halide soln. electrolysis - 72055B/40

*PERM- 01.06.78 PERMO SA D15 *US 4169-789
Sea water purification by reverse osmosis - 75180B/41

*PERR/ 30.12.77 PERRY D D13 *FR 2413-044
Preserving fresh or cooked food e.g. hard boiled eggs - 73884B/41

PERU 03.01.78 PERMUTIT LTD D15 =FR 2413-325
Softening water by ion exchange - 52745B/29

PETL 06.02.71 PETROLITE CORP D15 E11 H01 #J7 9028-384
Inhibiting scale - 26895T/17

PFIZ 03.01.78 PFIZER INC B03 D22 E13 =FR 2413-402
Antibacterial 11-alkanoyl-4-isonitrile oleandomycin cpds. - 84004A/46
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =FR 2413-403
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =FR 2413-404
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =PT --69-014
Antibacterial 4-de:oxy-4-acylamido macrolide cpds. - 49015B/27
PFIZ 03.01.78 PFIZER INC B03 C02 D22 E13 (D15) =PT --69-015
4-Deoxy-4-aryl-glyoxamido and aroyl thio:formamido-oleandomycin(s) - 49016B/27
*PFIZ 21.02.78 PFIZER INC B04 C03 D16 *US 4169-887
Antibiotic cpds., 48926 and 48927 from Actinoplanes deccanensis - 75232B/41
PHIM 29.03.78 PHILIP MORRIS INC D18 =DT 2912-322
Expanding tobacco to increase its filling capacity - 56315B/31
*PHIP 25.08.77 PHILLIPS PETROLEUM CO D16 *US 4169-762
Self-toxification process for aerobic fermentation - 75163B/41
*PHYL- 13.06.77 PHYLAXIA OLTOANYAG C03 D13 *HU T016-993
Solid, particulate, high-protein, high-starch feedstuffs - B/41
PLAC 06.08.74 MAX PLANCK GES WISSENSCH B05 D13 E11 =CA 1063-131
Synthetic alkyl esters of phosphatidic acids - 14895X/09
POLA 20.03.78 POLAK'S FRUTAL WORKS INC D23 E15 (D21 D25) =NL 7902-184
Nitrile cpds. with a 1-methyl-4 isopropyl:cyclohexane carbon skeleton - 69926B/39
POUE 29.12.77 POUDRES & EXPLOSIFS D23 E14 =FR 2413-355
2,4-di:nitro-6-tert-butyl-3-methyl-anisole from nitration mixts. - 53862B/29
POUE 29.12.77 POUDRES & EXPLOSIFS D23 E14 =FR 2413-356
Prepn. of 2,4-di:nitro-6-tert. butyl-3-methyl-anisole - 53863B/29
POUJ/ 03.01.78 POUJADE O D13 (D22) =FR 2413-041
Water-soluble sugar prod. contg. essential oils - 49014B/27
PRIN 26.01.78 PRINCETON APPL RES D15 J04 =GB 2017-920
Effluent stream analysis appts. using mercury drop electrode - 21891B/11
PROC 02.10.67 PROCTER & GAMBLE CO D25 =NL -161-501
Bleaching mixture - 50655Z/00
PROC 21.04.75 PROCTER & GAMBLE CO A97 D13 (A26) =CA 1062-951
Solid antifoam crystals for dry beverage mixes - 77459X/41
PROC 29.06.77 PROCTER & GAMBLE CO A97 D25 E19 =NL 7815-010
Detergent compsn. water-releasably loaded on a substrate - 02340B/02
PROC 29.06.77 PROCTER & GAMBLE CO A97 D25 E19 (A25) =NL 7815-011
Low phosphate laundry detergent compsn. - 02345B/02
*PROC 01.03.78 PROCTER & GAMBLE CO A97 D13 *US 4169-901
Cooking fat contg. volatile meat flavouring - 75238B/41
*PROC 09.08.78 PROCTER & GAMBLE CO D25 *US 4169-806
Granular detergent agglomeration process - 75194B/41
*PROT= 31.03.78 PROTEINS BIOSYNTH D16 *GB 2017-752
Apparatus for cultivating microorganisms such as yeast - 73964B/41
PROV= 28.06.76 PROVISIONS EQUIP D12 =DS 2729-094
Solid particles condensed from fish roe soln. or suspension - 04701A/03
PURD 27.02.78 PURDUE RESEARCH FOUNDATI A97 D16 J01 =DK 7900-813
Dialysis compsn. for blood purification in artificial kidney - 63170B/35
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 F01 =GB 2017-707
Glucose prodn. from cellulosic materials - 70256B/39
*PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 F09 *GB 2017-710
Recovering cellulose from waste materials - 73955B/41

QUAD- 29.03.78 AUAD CORP D22 J01 #DT 2813-403
Odorous and offensive vapour treatment - 86022A/47

*RAMP/ 31.03.78 RAMPIGNON J D15 *DT 2901-777
Solvent-laden waste water purification - 73802B/41
RAWL/ 08.03.74 RAWLINGS R M C03 D13 =SU -643-070
Feed supplement for ruminants - 25829W/15
*REOR 08.12.77 RESEARCH ORGANICS B03 D16 *US 4169-950
Amino-hydroxy-alkylene sulphonic acid zwitterions - 75262B/41
RETO 08.05.75 REYNOLDS TOBACCO CO D18 E13 =CA 1062-903
Improving the taste and/or smell of tobacco products - 63486X/34
RHON 15.01.70 RHONE POULENC SA B05 C03 D13 E24 (E14) =J7 9028-408
Isozeaxanthin and its esters from retrodehyd - 49430S/30
RHON 14.05.73 RHONE POULENC SA A88 D15 J01 =CA 1063-038
Membrane for osmotic cleaning of fluids - 82627V/48
RHON 23.03.77 RHONE-POULENC INDUSTRIES C03 D13 =DS 2812-977
Agglomerated mineral supplement for animals - 68928A/39
RHON 02.11.77 RHONE-POULENC INDUSTRIES A97 D25 (A23 A25) =SW 7811-243
Anti-soil and anti-redeposition detergent compsn. - 33374B/18
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =GB [illegible]
Contactor for substances in different phases - 68134B/38
ROUR 16.02.72 ROURE BERTRAND DUPO D23 E13 =NL -161-446
Naphthopyrans prepn. - 50204U/35
ROUS 15.02.72 ROUSSEL UCLAF B04 D16 =DS 2307-051
Alpha- and beta-glycoproteins of bacterial origin - - 50168U/35
ROUS 31.03.78 ROUSSEL UCLAF B02 C02 D22 =BE -875-217
7-thiazolyl-acetamido-cephalosporin oxime derivs. - 73876B/41
*ROUS 31.03.78 ROUSSEL UCLAF B02 C02 D22 *DT 2912-829
7-thiazolyl-acetamido-cephalosporin oxime derivs. - 73876B/41
ROUS 31.03.78 ROUSSEL UCLAF B02 C02 D22 =GB 2017-702
7-thiazolyl-acetamido-cephalosporin oxime derivs. - 73876B/41
*ROUS 07.04.78 ROUSSEL UCLAF B02 D22 *BE -875-379
Amino:thiazolyl-acetamido cephalosporin derivs. - 73624B/41
*ROWT 29.07.78 ROWENTA-WERKE GMBH D14 *BE -876-840
Removable filter cover for deep fryer or chip pan - 73657B/41

*SALT= 21.09.77 SALT IND RES INST C03 D13 *SU -643-144
Animal feed salt additive prepn. - 75020B/41
SANE 05.11.73 SAN EI CHEM IND KK D23 E15 =J7 9028-858
Water-dispersible carotenoid colouring agents - 82343W/50
SANK- 29.11.71 SANKIN PERLITE SEIZ D15 J01 =J7 9028-661
Treatment of oil - 73043U/48
SANO 09.08.74 SANDOZ LTD A60 D25 E23 F06 (A14 A23) =CA 1063-124
1,3-Diphenyl-pyrazoline substd. in position 4 or 5 - 15241X/09
SANO 02.09.75 SANDOZ AG B03 D16 =SU -643-085
Metabolite S11743A from Streptomyces mutabilis - 14639Y/09
SAOL 02.03.73 SANYO ELECTRIC KK D15 M12 =J7 9028-665
Treating surface cleaning wastes contg. oils and greases - 49930W/30
SCHD 25.01.78 SCHERING AG B01 D16 =PT --69-126
17-Alpha-hydroxy-corticoid derivs. substd. by acetal or thio:acetal 58435B/32
*SCHE/ 30.12.77 SCHEYEN M D11 *FR 2413-035
Semiconductor control device for bakery ovens - 73882B/41
SCHE/ 31.12.77 SCHEICHER H D22 L02 =FR 2413-077
Moulding implants, esp. dental implants, from ceramic masses 33434B/18
SCHR- 22.02.78 SCHREIBER-KLAERANLA D15 =DK 7900-627
Bar screen cleaning rake used in waste water treatment - 54637B/30
SCMZ 17.03.77 SCM CORP D23 =US 4169-844
Hydrogenating crude glyceride oils using nickel catalyst - 31554B/17
*SEIT 23.02.78 SEITETSU CHEM IND KK D18 E13 *J5 4113-401
Tanned natural leather mfr. - 74575B/41
*SEIT 23.02.78 SEITETSU KAGAKU KK D18 E13 *WP 7900-712
Tanning rawhide, with addition of urotropin to pickling bath - 75275B/41
*SEIT 24.02.78 SEITETSU CHEM IND KK D18 E34 *J5 4113-402
Tanning natural leather using chromate salt soln. - 74576B/41
SHIO 22.02.78 SHIONOGI KK B04 C03 D16 =J5 4113-422
Antigenic haemagglutinin from Haemophilus gallinarum - 63444B/35
SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =DK 7900-787
7-Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids 49025B/27
SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =J5 4112-892
7-Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids 49025B/27
SHIO 23.02.78 SHIONOGI KK B02 C02 D22 =SW 7901-601
7-Beta 5-oxo-4-phenyl-imidazolidine-1-yl 3-chloro 3-cephem-4-acids 49025B/27
SHIO 07.03.78 SHIONOGI KK B02 D16 =GB 2017-686
Antibacterial antibiotic cephamycin C microbiological prodn. 68393B/38
SHIR- 30.06.76 SHIRATORI SEIFUN KK D11 =J5 3024-046
Binding mixt. for preparing buckwheat noodles - 74593B/41
*SHIR- 30.06.76 SHIRATORI SEIFUN KK D11 *J7 9019-450
Binding mixt. for preparing buckwheat noodles - 74593B/41
SIEI 01.02.78 SIEMENS AG D15 E19 J04 =J5 4111-890
Automatic determn. of organic substances in water - 40684B/22
SIEI 01.02.78 SIEMENS AG D15 J04 =J5 4111-891
Determn. of dissolved organic solids content in water - 42426B/23
SIRE/ 21.02.78 SIREN M J A35 D18 J01 (A11) =NO 7900-563
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
SIRE/ 21.02.78 SIREN M A35 D18 J01 (A11) =SW 7802-006
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
SIRE/ 21.02.78 SIREN M A35 D18 J01 (A11) =SW 7802-007
Filter material for gas or liq. media, esp. tobacco smoke - 63432B/35
SLAG- 20.02.70 SLAGTERIERNES FORSK D12 =NL -161-577
Fat/meat thickness sonde - 00392T/01
SMHL 25.05.78 SIMON HARTLEY LTD D15 =PT --69-163
Thickening activated sludge - 40664B/22
SNKM 15.03.78 SANKIN IND CO LTD A96 D21 =DT 2910-077
Denture base prodn. - 72255B/40
STAH 16.02.78 STANDARD OIL CO (OHIO) A13 B07 D21 G02 (A14 A82 A96 A97) #J5 4111-594
Crosslinked maleic anhydride-indene copolymer - 49747A/28
STAM 22.03.78 STAMICARBON BV A41 D15 E13 =NL 7803-073
Melamine removal from waste water - 72146B/40
*STAR= 22.07.75 STARCH PRODUCTS RES INST A97 D15 H01 (A11 D16) *SU -642-352
Rock-cutting fluid contg. starch prods. - 74914B/41
STER 23.12.77 STERLING DRUG INC D22 L02 =FR 2413-343
Beta whitlockite prepn. in solid or porous form - 47146B/26

STER= 03.01.78 STERLITAMAK PETROCH A60 B07 D13 E14 (B05) #FR 2413-349
Methyl-di:tert.-butyl:phenol purification - 49676A/28
•STOM= 18.05.77 STOMATOLOGY RES A96 D21 (A17 A23) *SU -643-153
Material for modelling dentures - 75022B/41
STRK 15.02.78 STORK PMT BV D12 =GB 2017-481
Device for cutting around anus and to breast of fowl - 64159B/35
SUGY 19.06.75 SUGIYAMA SANGYO KAG D23 J04 =DS 2623-261
Determining peroxide value of oils and fats - 04201Y/03
SULA- 24.02.78 SUOMEN LAEAEKETEHDA B06 D13 =DK 7900-737
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27
SULA- 24.02.78 SUOMEN LAAKETEHDAS B06 D13 =NO 7900-635
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27
SULA- 24.02.78 SUOMEN LAAKETEHDAS B06 D13 =SW 7901-586
Compsns. contg. desired sodium potassium magnesium calcium ratios - 49035B/27
•SULZ 03.04.78 GEBRUDER SULZER AG D16 *DT 2815-199
Activated sludge preservation - 73792B/41
SULZ 03.04.78 SULZER BROS LTD D16 =GB 2017-672
Activated sludge preservation - 73792B/41
SUMO 28.12.77 SUMITOMO CHEMICAL KK A88 D15 J01 =FR 2413-108
Semipermeable membranes prodn. from acrylonitrile polymers - 52848B/29
SUTU 28.05.69 SUTURES INC A23 D22 E11 F02 (A27 A96) =DS 1942-722
Making synthetics yarn soft and ductile - 88785R/48
•SVYG 31.03.78 STATNI VU GOTTWALD D18 *DT 2907-782
Thermal treatment of leather - 73808B/41
SWFR 08.07.76 SWEDEN FREEZER MFG CORP D13 =US 4169-359
Soft ice cream machine with an accurate doser - 68891Y/39
•SYNT 03.08.78 SYNTEX (USA) INC D21 E14 *US 4169-703
Mutagen free oxidative red hair dye - 75135B/41
•SYNT 03.08.78 SYNTEX (USA) INC D21 E14 *US 4169-704
Mutagen-free oxidative blonde hair dye - 75136B/41
•SYNT= 16.05.74 SYNTH NAT PERFUMES D23 E19 *SU -642-359
Perfume compsn. having citrus odour - 74921B/41
•SZEN/ 12.07.77 SZENTIRMAY A D25 E17 *HU T017-001
Dialkyl ester sulphosuccinate surfactants - B/41

•TAGU/ 24.02.78 TAGUCHI F B04 C03 D16 *J5 4113-421
Mass culture of virus - 74579B/41
TAKE 30.12.77 TAKEDA CHEMICAL IND KK B04 C03 D16 (D22) =FR 2413-399
Antibiotic G-6302 prepd. by fermenting Pseudomonas acidophila - 49005B/27
•TAKI/ 20.02.78 TAKAHASHI K D21 *WP 7900-710
Sheet of starch material for fixing dentures - 75273B/41
•TAMA/ 27.12.77 TAMASI G D22 E31 (E33) *HU T016-997
Cleaning and sterilising stables - B/41
•TAOI/ 24.02.78 TAOI K D15 J01 *J5 4112-786
Appts. for concentrating e.g. brine by evapn. - 74445B/41
TATL 16.04.74 TATE & LYLE LTD D17 =SU -618-054
Sugar crystallisation by high shear nucleation - 72498W/44
•TEBB- 01.04.78 TEBBENHOFF J H KG D13 (D16) *DT 2814-122
Preparing stable milk beverage contg. alcohol and fruit juice - 73778B/41
•TECD 14.09.77 TECHNICON INST B04 D16 J04 *US 4169-765
Rapid determn. of alpha-amylase in aq. samples contg. glucose - 75164B/41
•TEKH= 03.08.77 TEKHRYBPROM EXPER D12 *SU -643-140
Fish sorting appts. - 75016B/41
TETR 23.01.78 TETRA PAK DEV SA D12 =PT --69-089
Working up fish raw material for human nutrition - 56545B/31
TEXC 24.11.72 TEXACO INC D15 H05 #J7 9028-843
Treating refinery sludges - 04845U/04
THAL 24.02.78 VEB SCHWERMASCH THALMANN D23 (D14) =SW 7901-348
Industrial plant to dry and cool processed sunflower seeds, etc. - 47241B/26
THOM 08.02.71 THOMAE K GMBH B03 D22 E13 =DS 2105-672
Uv absorbing 1-phenyl-3-(3-pyridyl)-1,3-propan-diones - 55213T/35
THOM/ 06.03.78 THOMSEN O D15 E17 =WP 7900-719
Large scale mfr. of methane from organic waste e.g. manure - 66325B/37
•THOM/ 31.03.78 THOMASCHKI C D16 *DT 2813-867
Hops feed for brewing copper - 73768B/41
TIPE- 04.04.78 TIPE REVENT AB D11 =GB 2017-479
Grill oven with access in one vertical side - 58051B/32
•TOHR 22.02.78 TOHO CHEM IND LTD A96 D23 (A25) *J5 4112-996
Long-lasting solidified perfume compsn. - 74557B/41
•TOKZ 17.02.78 TOKYO ORG CHEM IND KK A91 D15 (A14) *J5 4110-186
Weakly basic anionic exchange resin prodn. - 74036B/41
•TOLO- 11.07.77 TOLO INC A88 D15 J01 *US 4169-793
Swimming pool filter drain - 75184B/41
TOPE 28.01.74 TOPCHIEV PETROCHEM SYNTH D23 E14 #NL -161-430
Acetates of substd. benzaldehydes and benzyl alcohols - 63021V/36
•TORA 16.02.78 TORAY IND INC A13 D16 (A14 A91) *J5 4110-274
Beta-amino:propionamide-methylated polyvinyl aromatic cpd. mouldings - 74077B/41
TOXN 07.06.74 TOYO JOZO KK D12 E19 (D16) =J5 0155-658
Colouring meat e.g. beef and pork - 74591B/41
•TOXN 07.06.74 TOYO JOZO KK D12 E19 (D16) *J7 9011-374
Colouring meat e.g. beef and pork - 74591B/41
TOXN 28.12.77 TOYO JOZO KK B03 D16 (B04) =FR 2413-401
Amino-sugars obtd. by fermentation of Streptomyces sp. - 51269B/28
•TOXN 25.03.78 TOYO JOZO KK B04 D16 J04 *DT 2911-481
Reagent for assay of pyruvate - 73838B/41
•TOYM 13.02.78 TOYOBO KK A96 B04 D16 *J5 4110-385
Fixing enzymes to high molecular carrier - 74126B/41
•TOYM 16.02.78 TOYOBO KK D15 J01 *J5 4110-183
Tubular membrane separator for liquids - 74035B/41
TSUK 13.03.74 TSUKIBOSHI GOMU KK A97 D13 =DS 2510-840
Preservative compsn. for agricultural prods. - 50975W/31
•TSUR 22.02.78 TSUMURA JUNTENDO KK A96 D23 (A25) *J5 4112-996
Long-lasting solidified perfume compsn. - 74557B/41

UGIN 25.04.74 UGINE KUHLMANN D18 E21 =US 4169-831
Brown water soluble tris- and tetrakis-azo dyes - 75710W/46
UGIN 27.01.78 UGINE KUHLMANN A97 C03 D13 (A21) =PT --69-060
Animal feed blocks and agglomerates - 54510B/30
•UJEL- 13.10.76 UJ ELET MEZOGAZDASA D13 E12 (E17) *HU T016-991
Making liquid eggs temporarily storage-stable - B/41
ULTR- 28.12.77 ULTRAKUST-GERATEBAU D13 J04 =FR 2413-652
Sampling bottle with ready-detailed information stored magnetically - 51036B/28
UNIC 21.06.74 UNION CARBIDE CORP D15 =CA 1063-264
Removal of phosphates from effluent water by aeration - 01995X/02
UNIC 29.07.74 UNION CARBIDE CORP A96 D22 F07 =CA 1063-088
Absorbent hydrogels coated with fibres - 60116W/36
UNIL 17.06.69 UNILEVER NV D13 E17 =NL -161-440
Thia alkane thiols as meat aroma food addit- - 92172R/49
UNIL 02.07.74 UNILEVER NV D13 E13 =NL -161-350
Flavouring agent for foodstuffs esp. margarine - 06731X/04
UNIL 04.12.74 UNILEVER LTD D13 =CA 1062-949
Dehydrated food pref soup mixt - 46415X/25
UNIL 18.04.75 UNILEVER LTD D25 E19 (E37) =CA 1062-981
Powdered spray-dried detergent compns - 81222X/44
UNIL 12.06.75 UNILEVER LTD D21 E19 =CA 1063-029
Sebostatic and sebosuppressive cosmetic agents - 00339Y/01
•UNIL 16.05.77 LEVER BROTHERS CO D25 E16 (E12) *US 4169-957
Amide derivs. of carboxymethyl:oxy:succinic acid - 75266B/41
UNIL 03.01.78 UNILEVER NV D13 =FR 2413-043
Smoke liquid concentrate for food flavouring - 50867B/28
UNIL 20.03.78 UNILEVER NV D21 E19 =DT 2910-282
Deodorant non-germicidal toilet soap tablet - 69929B/39
UNIL 20.03.78 UNILEVER NV D21 E19 =NL 7902-161
Deodorant non-germicidal toilet soap tablet - 69929B/39
UNIT- 27.12.77 UNITEK CORP D21 M26 =FR 2413-471
Dental gold platinum alloy - 06018B/03
UNVO 28.12.77 UOP INC D15 =FR 2413-324
Appts. for conditioning demineralised brackish or sea water - 40491B/21
UNVO 29.03.78 UOP INC C04 D15 =DT 2911-899
Mechanically dewatering fibrous organic waste - 56196B/30
UPJO 17.10.77 UPJOHN CO B04 C03 D16 H07 =US 4169-888
Antibiotic CC-1065 - 31828B/17
USAS 17.01.74 NAT AERO & SPACE ADMIN A14 D22 (A88) =CA 1063-298
Small, porous, hydrophilic polymer beads useful as adsorbent - 51255W/31

VIVO 20.08.75 MORTON-NORWICH PROD INC A97 D25 E12 (E17) =CA 1062-982
Liq. laundering detergent and softener compsn - 79201X/42
VOIJ 28.01.78 VOITH J M GMBH D15 E12 F09 =J5 4110-652
Purifying waste water from old paper processing - 58253B/32
•VOLG= 16.02.77 VOLGA DON SURFACTAN D18 E17 *SU -642-296
Greasing base for treatment of leather - 74859B/41
•VYRM- 07.12.77 VYRMETODER AB D16 M25 *SW 7713-889
Extracting metal from sulphide ore in situ - 75075B/41

WAKI- 14.08.75 WAKII SEKKAI KOGYO C04 D16 =J5 2024-870
Inhibiting spreading of powdered fertiliser - 74616B/41
•WAKI- 14.08.75 WAKII SEKKAI KOGYO C04 D16 *J7 9028-348
Inhibiting spreading of powdered fertiliser - 74616B/41
WART 15.12.70 WARTSILA AB OY D15 =DS 2161-763
Vacuum sewage system - 61533V/35
•WAST- 06.09.78 WASTE MANAGEMENT D15 *US 4169-791
Solar evaporation for concentration of liquid waste - 75182B/41
•WATE= 01.04.77 WATER POLY MAT D15 J01 *SU -643-170
Drainage filter for surface water - 75029B/41
WELL 25.01.78 WELLCOME FOUNDATION LTD B04 C03 D16 =J5 4113-423
Lipid-free antigen prepn. from epimastigote Trypanosoma cruzi - 61796B/34

WELT/ 24 03 78 WELTMAN J K B04 D16 =DT 2910-998
Enzyme conjugates for immunoassay - 69942B/39
WIEG- 31.01 78 WIEGAND KARLSRUHE D13 J01 =DT 2857-042
Fluid evaporation plant esp. for milk - 58291B/32
WING/ 14.06.76 WING R E A97 D15 (A11) =CA 1063-103
Alkali metal-magnesium crosslinked starch xanthate compsn. - 72410Y/40

YARD 12.01.77 YARDNEY CO A96 D21 =US 4169-469
Splint for immobilising damaged limb - 09316Y/06

ZNEM- 19.08.74 ZUID-NEDER MELKIND D13 =NL-161-348
Recovery of casein and whey from skimmed milk - 18203X/10

277-R D
A -837-020 R11 +
T 1004-148 S05
H -518-065 T20
T 1692-299 T44
L -141-071 V09 +
L -141-072 V09 +
7 4006-862 V13 +
L 7404-267 V28 +
L 7403-862 V28 +
L -161-342 B41 +

9687-R DE
E -742-382 R22
L 6917-263 R23
A 6908-290 R36
R 2024-646 R49
T 1811-994 S06
B 1268-124 T12
H -526-465 T42
CA -919-382 U06
NL -161-420 B41

3999-R D
GB 1200-635 R30
CA -853-634 R42
CH -510-403 S41
US 3613-549 S45
NL -161-343 B41

8785-R ADEF
DT 1942-722 R48
FR 2043-707 S17
CA -891-224 T06
GB 1286-961 T35
DS 1942-722 B41

92172-R DE
BE -751-946 R49
NL 7008-389 R51
DT 2029-506 S17
FR 2052-679 S30
ZA 7004-047 T06
US 3653-920 T17
GB 1311-302 U13
CA -936-872 U48
J7 4021-077 V25
CH -549-349 V26
NL -161-440 B41

06961-S D
FR 2032-103 S04
DS 2006-742 B41

08121-S DE
BE -753-751 S04 +
NL 7012-137 S09
DT 2036-936 S28
CA 879-136 S35
FR 2058-364 S36
DT 2064-921 S38
DT 2064-919 S38
DT 2064-918 S39
DT 2064-920 S40
US 3636-165 T08
US 3636-176 T08
US 3647-826 T14
CH -523-962 T34
US 3681-464 T46
DT 2064-921 T46
US 3703-479 T48
GB 1300-970 T52
US 3751-500 U35
US 3767-713 U45
DT 2036-936 U46
US 3773-836 U48
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DS 2064-919 V04 +
DS 2064-918 V04 +
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J7 4028-983 V34
US 3839-368 V41
J7 5002-016 W08
US 3876-562 W16
J7 5025-012 W37
J7 5025-014 W37
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NL 7600-397 X20 +
NL 7600-399 X20 +
NL 7600-400 X20 +
NL 7600-401 X20 +
CA -992-549 X30 +
NL -153-171 Y24 +
IT 1019-005 A08 +
NL -160-238 B22 +
NL -161-127 B36 +
NL -161-129 B36 +
NL -161-148 B36 +

NL -161-427 B41 +

13680-S ADE
BE -754-649 S07
NL 7011-768 S08
DT 2039-358 S14
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GB 1276-771 T23
CH -533-986 U22
US 3787-174 V05
CH -550-235 V30
US 3853-464 V52
US 3905-761 W39
US 3953-508 X19
CA 1007-247 Y14
US 4042-627 Y34 +
DT 2066-053 A11
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39853-S D
BE -759-635 S23
NL 7017-147 T23
DT 2058-246 T24
US 3698-309 T44
NL -161-340 B41 +

49430-S BCDE
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NL 7100-170 S31
J4 6000-181 S35
BE -761-598 S36
CH -512-461 S44
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GB 1299-333 T50
US 3755-422 U37
NL -161-140 B36
J7 9028-408 B41

62444-S DE
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DT 2111-753 S44
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US 3681-395 T33
US 3718-696 U11
US 3728-359 U18
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GB 1335-927 U44
GB 1335-930 U44
GB 1335-929 U44
NL -161-448 B41 +

73611-S D
BE -767-213 S46
NL 7105-154 S48
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J4 6006-750 T01
FR 2090-087 T14
GB 1333-475 U41
CH -554-673 V46
DS 2024-051 B41

74226-S D
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BE -766-945 S47
FR 2093-480 T17
DS 2123-095 B41

76427-S D
BE -767-686 S48
DT 2125-701 S50
NL 7107-118 S50
J4 6006-918 T02
FR 2090-925 T16
CA -910-116 T40
GB 1304-804 U05
US 3772-035 U47
IT 1030-014 B26
J7 9028-461 B41

00392-T D
DT 2107-114 T01
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GB 1297-474 T47
DT 2107-114 U19
NL -161-577 B41

09351-T BDE
BE -770-268 T06 +
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ZA 7104-870 T19
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DS 2136-118 B41 +

10362-T ABD
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ZA 7104-871 T19
FR 2104-795 T29
DL --92-392 T46
GB 1325-011 U31
J7 4000-520 V02
CA -939-999 V04
CH -552-351 V39
US 3901-248 W36
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16216-T D
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ZA 7105-720 T24
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US 3838-005 V40
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SU -528-884 Y23
J7 9028-457 B41

23415-T BD
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BE -780-000 T36
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J7 2046-340 T48
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CH -564-349 W34
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CA -983-856 X10
NL -156-045 A13
DS 2165-663 B41

26895-T DEH
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J4 7017-678 T43
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GB 1346-941 V07
J7 9028-384 B41 +

38970-T D
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SU -640-639 B41

55213-T BDE
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BE -779-057 T35
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CH -565-558 W38
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J7 9028-843 B41 +

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NL 7302-132 U36
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J4 8096-792 V08
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CH -564-084 W34
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US 3929-994 X02 +
HU T011-227 X16
CA -993-389 X32
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50206-U DE
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NL 7301-464 U36
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ZA 7300-289 U48
FR 2171-925 U50
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GB 1415-046 W48
GB 1415-045 W48
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J7 9006-614 B17
NL -161-446 B41

60546-U DE
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J4 9011-850 V14
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NL 7904-191 B41

62009-U ABD
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73043-U DJ
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J7 9028-661 B41

74776-U D
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J7 9028-403 B41

79403-U BD
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SU -505-382 Y03
SU -639-487 B41

23268-V AD
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27013-V DE
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J4 9135-893 W09
OE 7310-061 W15
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CA 1006-534 Y12
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J7 7043-476 Y47
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40387-V D
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NL 7702-635 Y28

NL -161-560 B41

52196-V D
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DS 2300-039 B41

56782-V D
BE -812-422 V32
NL 7403-782 V41
DT 2313-715 V41
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FR 2222-617 W03
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US 3930-535 X03
GB 1428-310 X12
NL -161-346 B41

61533-V D
CA -952-789 V35
GB 1379-566 W01
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62841-V AD
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CA 1007-385 Y14
J7 9028-669 B41

63021-V DE
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NL 7401-138 W33 +
DT 2404-661 W34 +
GB 1403-873 W35 +
J5 0108-233 W43
FR 2260-553 W48 +
DS 2404-661 A35 +
NL -161-430 B41 +

76868-V CD
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SW 7405-009 V50
DK 7402-002 V51
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US 3969-537 X30
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82627-V ADJ
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10913-W CD
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13782-W D
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DT 2462-504 Y20 +
CH -588-821 Y29 +
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J7 7048-185 A02
J5 0157-567 A02
J7 7049-060 A02
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NL -158-542 A48 +
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DS 2462-504 B41 +

14740-W DE
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CA 1034-065 A29
J7 9028-472 B41

15632-W D
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US 3915-820 W45
US 4011-151 Y11
J5 0030-351 B41
J7 9028-668 B41

16409-W D
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25829-W CD
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26417-W DE
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49930-W DM
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50975-W AD
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DK 7500-981 W50 +
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59107-W D
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60116-W ADF
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72498-W D
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CA 1040-194 A43
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SU -618-054 B41

72766-W BDE
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J5 0140-659 [illegible]
GB 1468-127 Y12
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CA 1062-954 B41

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76001-W ADE
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J5 0075-215 W50
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J5 1014-757 X12 +
DK 7502-818 X14 +
FR 2275-408 X15 +
SF 7501-833 X15 +
ZA 7503-737 X26
BR 7503-861 X30 +
GB 1512-693 A22 +
IL --47-536 A33 +
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CA 1063-264 B41 +

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NL -161-514 B41

15241-X ADEF
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BE -832-224 X09+
NL 7509-302 X09+
J5 1041-731 X21+
FR 2281-359 X22+
BR 7505-062 X34+
US 3997-556 X52+
DL -123-885 Y12+
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CS 7505-496 A10+
US 4082-746 A21+
GB 1522-304 A34+
CA 1063-124 B41+

15642-X DE
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J5 0155-658 B37
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18203-X D
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DT 2536-899 X13
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27673-X DE
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US 3956-393 X21
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31014-X BD
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US 4169-817 B41+

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SW 7512-900 X22+
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SF 7502-723 X26+
DK 7504-377 X28+
FR 2287-504 X30+
DL -126-499 X32+
ZA 7507-898 X39+
PT --64-144 X41+
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NL 7511-466 X18
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CA 1063-028 B41

33117-X CD
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J7 9028-467 B41

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NL 7514-065 X26
SW 7513-646 X30
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SF 7600-276 X48
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FR 2310-096 Y09
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J7 9028-847 B41

65923-X ADE
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68565-X D
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69446-X ADE
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J7 9028-464 B41

72937-X D
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73017-X D
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J7 9028-845 B41

74149-X D
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DK 7601-018 X49
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DL -124-580 Y23
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CA 1033-922 A29
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NL 7602-978 X41+
DT 2512-815 X42+
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SW 7602-245 X45+
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CA 1063-263 B41+

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BE -840-103 X42+
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DK 7601-350 X51+
FR 2305-437 Y04+
PT --64-931 Y10+
SW 7603-705 Y14+
ZA 7601-741 Y17
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GB 1506-328 A14+
SU -591-144 A50+
OE 7602-255 B13
DK 7804-895 B17+
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DS 2612-749 B41+

77459-X AD
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CA 1062-951 B41+

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CA 1062-981 B41

90627-X DEG
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NL 7604-692 X50+
DT 2522-904 X51
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OE 7603-726 A13+
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NL 7605-208 X49
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GB 1492-917 Y47
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94700-X CD
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DL -124-357 Y21+
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HU T015-398 A41+
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DS 2625-283 B02+
GB 1553-890 B41+

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NL -161-349 B41

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US 4098-575 A36
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05706-Y AD
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NL 7609-910 Y12+
FR 2322-831 Y23+
GB 1534-596 A49+
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05753-Y DE
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J7 7030-524 Y35
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GB 1506-095 A14
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SW 7606-396 Y09+
DK 7602-910 Y14+
FR 2318-264 Y17+
DT 2612-589 Y41+
GB 1503-087 A10+
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US 4006-741 Y07+
NL 7608-402 Y08
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SW 7608-511 Y14
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ZA 7605-850 Y43
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13510-Y DJ
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SW 7609-493 Y15
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SF 7602-420 Y21
FR 2322-596 Y23
DK 7603-800 Y23
PT --65-539 Y43
ZA 7605-281 A20
SU -643-085 B41

15840-Y DL
NL 7608-805 Y09+
US 4039-884 Y32+
DT 2620-251 Y46+
GB 1553-898 B41+

25350-Y DEH
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BR 7604-040 Y28
OE 7603-602 Y31
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26194-Y D
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J7 9028-844 B41

26833-Y D
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DT 2700-744 Y40
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GB 1553-925 B41

37389-Y CD
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45789-Y ADE
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J7 9028-849 B41

47311-Y D
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48207-Y DE
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NL -161-341 B41

53812-Y D
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CA 1063-100 B41

57789-Y D
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J5 2096-759 Y38+
FR 2340-556 Y47+
US 4076-845 A11+
GB 1535-844 A50+
CA 1062-950 B41+

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CA 1062-898 B41

66551-Y D
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SW 7903-983 B41+

68891-Y D
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NL 7607-558 A05
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J7 9028-312 B41

79331-Y BD
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ZA 7707-572 A46+
NL 7800-058 B29+
DT 2802-824 B31+
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FR 2413-039 B41+

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ZA 7800-268 B09+
FR 2413-038 B41+

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DK 7704-899 B25+
BR 7707-723 B25+
SW 7712-436 B26+
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J7 9028

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78924-A
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DK 7900
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90177-A
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J7 9028

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4169-761 B41

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7905-768 B38+
7815-010 B41+

5-B ADE
-----235 B02+
4039-412 B18+
7815-011 B41+

18-B DM
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2413-471 B41

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360-B BD
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S 4169-854 B41

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T 2854-221 B41
B 2017-491 B41

439-B D
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J5 4113-396 B41

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40664-B D
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SW 7900-028 B34+
J5 4095-585 B36+
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49016-B BCDE
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NL 7900-007 B29+
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DK 7805-074 B33+
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J5 4095-587 B36+
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SW 7813-278 B33+
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FR 2413-137 B41+

49447-B D
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50731-B DE
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NL 7900-299 B31
J5 4112-907 B41

50867-B D
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NL 7812-616 B29
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FR 2413-094 B41

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DK 7900-627 B41

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74077-B AD
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=416 52664B D15J01
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GB 1553
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GB 2017
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HU T016
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• 993 B C03D13
• 997 B D22E31P3

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• 001 B D25E17
• 044 B B04D16
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• 055 B B05D16
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=601 74634B D18E16

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=658 74591B D12E19

J5 0160
=456 74640B D12

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• 187 74037B A91D15
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• 322 74107B A60C03D22E16
• 323 74108B C03D22E16F06
• 335 74115B D21E19
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• 337 74117B D21E14
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• 388 74127B A97B05D16
• 389 74128B B05D16
• 390 74129B B04D16
• 391 74130B B04D16

J5 4110
•392 74131B B04D16
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•650 74159B D15
•651 74160B A35D15E37G06R2
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•385 74390B A81D23E19
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•556 74403B D15
•557 74404B D15
•786 74445B D15J01
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=892 49025B B02C02D22
•905 74502B A97D25F06
•906 74503B A96D21E12
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=908 56559B A97D25P4
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J5 4113
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•157 74608B D15J01
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=312 74704Y D12J01
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•355 74618B A92D16E14F04P1
#384 26895T D15E11H01
=403 74776U D24
=408 49430S B05C03D13E24
=413 72816A A96D22L02P3
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•447 74638B C03D22
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•462 74640B D12
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NL -161
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WP 7900
•710 75273B D21P3
•712 75275B D18E13
=719 66325B D15E17

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CLASSIFIED ALERTING BULLETIN

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ABSTRACTS

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COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	15 OCT - 22 OCT 79	875,547 - 875,765
-Non Delayed	15 OCT 79	877,034 - 877,214
BRAZIL	9 OCT 79	7,901,150 - 7,901,514
CANADA	9 OCT 79	1,063,751 - 1,064,200
DENMARK	1 OCT 79	7,800,990 - 7,901,006
E. GERMANY	1+8+15+22+	89,948 - 132,905
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-DAS	18 OCT 79	1,495,393 - 2,903,396
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-Reissues	16 OCT 79	Re30,112 - Re30,119
-Patents	16 OCT 79	4,170,792 - 4,171,541
PCT	18 OCT 79	7,900,775 - 7,900,841

*Printed patents actually published mid October, 1979

**Includes numbered Basics from Week B36

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Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry	F	Textiles, Paper, Cellulose
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AE	Polymer & General Chemistry	H	Petroleum
B	Pharmaceuticals	J	Chemical Engineering
C	Agricultural Chemistry	K	Nucleonics, Explosives, Protection
D	Food, Disinfectants, Detergents	L	Refractories, Ceramics
E	General Chemistry	M	Metallurgy
E+	General Chemistry Applns.		

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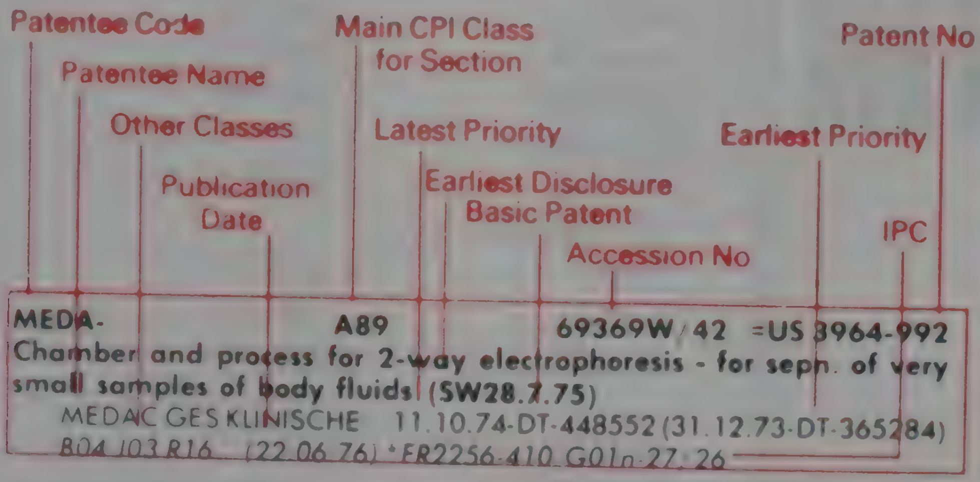
See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.


Patentee Code
Patentee Name
Other Classes
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Main CPI Class for Section
Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- A89 69369W/42 =US 3964-992
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

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9/79

D1: FOOD; FERMENTATION

D11 : BAKING

FUSS/ ★ D11 77440B/43 ★DL-137-321

Turning mechanism for bakery prods., esp. glazed doughnuts - prevents ejection of tray and damage to goods

FUSSEL K 26.07.77-DL-205353

(29.08.79) A21c-09/04

The emptying of a tray laid out with doughnuts, iced or glazed (partly) on (one of) their surfaces, which are to be turned over, is effected by a mechanism including a shaft with arms, and a drive for the turning operation comprising an operating cylinder, a rack and a pinion which turns the tray through 180°. The tray with the doughnuts is locked by a train of levers, between a movable and a fixed jaw, before reaching the end of its rotation, so that the tray cannot fall. The goods are thus turned and when the end position is reached they fall under their own weight into the transport container. The tray may have baskets for holding prods. of different sizes, within limits. The sides of the tray have ''U''-flanges which can be slipped between the clamping jaws. A protective covering prevents wear of the rubbing surfaces.

Used for turning over bakery prods. in general, esp. glazed doughnuts, mechanically, and without the possibility of damage to the glazed or iced surface. 26.7.77 as 205353 (7pp1045)

RATI- D11 52201X/28 =DS 2621-836

Shearing and slitting a continuous band of crispbread - for continuous and automatic preparation of pieces for packaging

VEB FORSCH RATIONAL (WETZ/) 11.07.75-DL-187259

*(18.10.79) *DL-119-703 A21c-15/04*

A continuous band of crispbread, as wide as the full width of the oven, is fed at uniform speed to a transverse shear formed by upper and lower blades together with transmission elements. The crispbread strips are then transferred to a conveyor with rails and carriers on a roller chain conveyor and presented to pairs of circular knives forming a longitudinal cutting arrangement which delivers the crispbread segments.

Appts. is simple and the crispbread segments are produced with the min. of waste. Both cutting assemblies are remotely controlled according to signals from monitors so that the minimal load is imposed on the goods. 17.5.76 as 621836 (9pp1045)

TAKE ★ D11 78149B/43 ★J5 4119-038

Difficultly-digestible polysaccharide food for treating hyperlipidaemi - contains pectin, and can be added to bread, confectionery, biscuits and cookies

TAKEDA CHEMICAL IND KK 07.03.78-JA-026206

B04 (14.09.79) A21d-02/18 A23l-01 C08b-37/06

The food comprises granular particles of dia. 250 - 850 µ and moisture content ⩽ 10 wt.%, contg. 5 - 10 wt.% pectin as the difficultly digestible polysaccharide, to reducing cholesterol content in blood.

The compsn. consists of a vegetable extract gum (e.g. pectin, higher methoxy-pectin or lower methoxy-pectin), a pigment (e.g. beta-carotene, laccaic acid or caramel), a perfume agent (e.g. lemon essence, almond essence or sesame oil essence), a sweetening agent (e.g. cane sugar, D-fructose orreduced maltose jelly), an acid condiment (e.g. citric acid or malic acid), sodium chloride, sodium glutamate and nucleic acid condiment. 7.3.78 as 026206 (6pp15).

LENG= ★ D11 78558B/43 ★SU-606-569

Dough divider for bread prodn. - has multiple screws feeding dividing heads which operate synchronously with loading conveyor feeding moulds

LENGORSOVET BREAD 23.09.76-SU-408904

(28.04.78) A21c-09/08

Equipment for dividing dough and loading it into moulds to bake bread, comprises a feeder with screw delivery, rotating dividing heads with measuring chambers, and loading conveyor. Productivity is increased and more accurate dough dividing is guaranteed, to produce the dough portions, by fitting the feeder with extra screw delivery means, which are all positioned coaxial to the dividing heads. The number of measuring chambers equals the corresponding number of screw delivery means and number of moulds. The loading conveyor is positioned above the latter. The pitch at which the measuring chambers are distributed corresponds to the same distance apart of the moulds. The loading conveyor is also operated with a synchronously-moving carriage to raise the loading accuracy.

Lenkov, P.T., Vul, G.O., Iovnovich, L.S. et al. Bul. 18/15.5.78. 23.9.76. as 408904 (4pp29)

MOMI D11 50123A/28 =US 4171-197

Pastry rolling machine - with slower belt conveyor parallel to main conveyor downstream of wrapping roller

MORINAGA & CO 30.12.76-JA-160098

*(16.10.79) *DT2759-095 +A21c-03/06*

Prodn. of rolled sheet cookies is described using an endless conveyor adjacent to a support surface to deliver the material and an adjacent rolling-up roller moving at a slower speed. A deflector plate moves the material around the roll at the start of the rolling up process and a stop device alongside the roller prevents further material movement around the roller at a suitable stage.

The material is then transfered to a rolling up belt conveyor having a section parallel to, but spaced from the parallel support surface. The position and speed of the conveyor being such that the forming of the material into a roll continues during the transfer.

The arrangement provides a simple and rugged device for forming sheet material into rolls. 16.12.77 as 861298 (4pp397)

AGUI/ ★ D11 78948B/43 ★US 4171-198

Appts. for extruding pliant sheets, esp. dough - through slot in hopper with barrier reciprocating within slot

AGUIRRE A A 31.08.77-US-829292

(16.10.79) B29f-03/04

Appts. includes a hopper having an elongated slot along one of its side walls. A barrier having a thickness less than the width of the slot extends from outside the hopper through the slot into the hopper.

A rotor is positioned within the hopper and this moves the material within the hopper into compressive engagement with the portion of the barrier within the hopper. The barrier is reciprocated within the slot relative to the rotor so that as the rotor rotates the internal edge portion of the barrier remains close to the surface of the rotor but without touching it. The material compressed against the barrier is extruded through the slot as a thin continuous sheet.

The appts is used to extrude in particular, a masa dough used in tortilla prodn. Even fragile doughs can he extruded without damaging the material. 31.8.77 as 829292 (8pp295)

FORK/ ★ D11 79028B/43 ★US 4171-380

Cooked dough prod. contg. moist or frozen filling - with backing layer separating filling and dough shell

FORKNER J H 17.04.78-US-896711

(16.10.79) A21d-13/08 A23g-09/04

Food prods. comprise a moist filling contained in an envelope consisting of an external layer of cereal dough and a protective edible backing layer between the dough and the filling. The envelope has a seal formed by overlapping margins of dough, the backing layer being confined to the inner side of the dough and forming a thermal barrier.

The backing layer protects the dough from the moisture in the filling, and insulates the filling, so the dough is cooked quickly and thoroughly, while the filling can remain cool or even frozen. The seams of the prod. do not open on cooking, esp. on deep fat frying. 17.4.78 as 896711 (13pp955)

D12: MEAT; FISH PROCESSING

TEKH= ★ D12 77267B/43 ★DL -136-795

Filleting machine for fish of different sizes - removes bones completely without waste using spreader and tubular knives

TEKHRYBPROM 02.06.78-DL-205763

(01.08.79) A22c-25/16

The headless and gutted body of a fish is fed through guide flaps into a machine having an arrangement of circular knives and guide rollers behind the flaps for cutting away a strip of flesh from the underside of the belly. There are two mutually opposing filleting knives between the edges and the outer surfaces of which, a spreader is introduced.

Each knife is in the form of a ring and is supported on bearing rollers, with its cutting edge opposed to the line of motion of the fish. It presents to the side faces of the spreader a cylindrical concentric surface; the distance between the spreader side face and the cutting edge, corresponding near enough, to the greater thickness of the side bones of the fish.

Used for the prodn. of high quality fish fillets, whilst the bones removed are free from remnants of flesh. The machine removes the bones completely and handles fishes of different sizes. 2.6.78 as 205763(14pp1045)

PIEH/ ★ D12 77306B/43 ★DL -136-921

Compact steamer for preserving food esp. fish - has drying compartment enclosing steamer and a circulating conveyor system

PIEHL G 09.06.78-DL-205904

(08.08.79) A23b-04

A steaming plant for extracting water from foodstuffs consists of a steaming and drying chamber together with a circulating conveyor system. At least one chamber of one treatment zone encloses fairly completely, the chamber of other treatment zone. A simple insulating wall separates the two chambers, and is pierced for the conveyor at any suitable position.

The delivery and withdrawing stations of the circulating conveyor are placed immediately at the points, alongside or above each other, where the conveyors pass through the walls of the two chambers. The turning points of the conveyors are arranged vertically, one row above the other, with the rollers of the upper row offset at a definite angle to the vertical.

Used for preserving foodstuffs and esp. fish by steaming and drying. A more efficient plant is provide and in particular one which can be installed on board a factory ship. 9.6.78 as 205904(7pp1045)

PETZ/ ★ D12 77357B/43 ★DL -137-052

Improving the quality of meat products - by coating with hot opaque material to prevent degradation

PETZOLD H 06.06.78-DL-205801

(15.08.79) A23b-04/10

The consumption quality of sausage and meat goods is improved by coating with a hot opaque coating mass. The coating material must be harmless of foodstuffs and must solidify on cooling to form an air-tight opaque coating. The coating is pref. applied by dipping. The temp. of the coating mass is pref. 130-140°C.

The coating prevents wt. loss and deterioration in quality (loss of flavour, colour change, microbial spoilage, etc.) during storage and transport. 6.6.78 as 205801 (6pp367)

UNIL D12 80953V/47 =DS 2421-543

Reconstituted meat product contg. potato pulp - with reduced starch content acting as porous filler preventing shrinkage

UNILEVER NV 04.05.73-GB-021232

*(18.10.79) *BE-814-556 A23l-01/31*

A dried meat prod. which is easily rehydrated, is made from comminuted meat and 1-10% (based on the wet wt. o the meat) of a potato pulp contg. cell wall polysaccharide and starch in a ratio of ≥ 1:1.

The presence of the potato pulp prevents shrinkage and the formation of a hard surface layer. The pump may be obtd. as the waste matter in the extraction of starch from potatoes. 3.5.74 as 421543 (6pp068)

RIED- ★ D12 77520B/43 ★DT 2815-26

Skinless sausage machine - with magnetron heating through glas strip on microwave reflecting metal tube

RIEDEL-TECHNIK GMBH 08.04.78-DT-815269 (00.00.77-DT-756995)

(18.10.79) A22c-11

Parent patent described a machine for the mfr. of skinles sausage in a heated tube with detectors for the heat input control. An axial strip along the tube can be replaced by a material which is transparent to microwaves (glass or ceramics) while the rest of the tube consists of metallic materials which reflect the microwaves.

Application of microwaves reduces the time required to heat the sausage meat to boiling point still further to 3-7 min. depending on the sausage dia. 8.4.78 as 815269 Div. ex. 2756995 (10pp39)

HOEG- ★ D12 77637B/43 ★DT 2913-495

Plastics bracket for suspending sausages with wire-clip sealed casings - is double-loop-shaped like figure eight with top half larger than bottom portion

HOEGGER C & CIE AG 07.04.78-CH-003778

A97 (18.10.79) A22c-15

Plastics bracket for suspending sausages whose casings are closed at their ends by wire clips, has an upper loop adapted to receive a rod, the loop narrowing in a downward direction and having a widening part adjacent the narrow section. The widening part for fastening the clip at th end of the sausage and is an eyelet or relatively small loo into which the clip may be hooked.

The resulting component is a double loop forming a double-eight with larger top half. Both 'legs' of the upper loop are connected by a 'bridge' near the narrow portion. This 'bridge' has a slot extending transversely to the longitudinal axis of the bracket. 4.4.79 as 913495 (10pp267)

JOHJ ★ D12 77664B/43 ★DT 2914-529

Stabilising collagen films esp. sausage skins against fungi - by reducing moisture content and storing in atmos. contg. carbon di:oxide

DEVRO INC 11.04.78-US-895408

A97 (A11) (18.10.79) A22c-13

Fungus-resistant collagen films are obtd. by setting the opt. tubular film to water-content <40 (<25) wt. % and storing in a gas atmos. contg. ≥ 60 (≥ 80)vol% CO_2, balance pref. air.

A flexible prod. is obtd. which resists fungal attack on storage for several months.

The water-content is pref. set by first drying the film to water-content < 16wt. % and then re-moisturising. In a claimed process for increasing the storage-stability of collagen sausage skins, the skins contg. <40wt. % water are packed in a container, CO_2 concn. in container is increase to > 60 vol% and the container is hermetically closed. Th container can be closed hermetically by surrounding with a gas-impermeable bag, esp. of metal foil. A thermoplastic layer, e.g. of polyethylene or polypropylene, can be applied to ≥1 surface of the metal foil. 10.4.79 as 91452 [illegible]

INRG ★ D12 77732B/43 ★FR 2414-726

Portable reflectometer incorporating plastics filter and pressure pad - used for determining the reflectance of meat and meat prods. and for determining their colour

INST NAT RECH AGRON 11.01.78-FR-000735

A89 J04 R16 (14.09.79) G01n-21/48 G01n-33/12

A portable reflectometer has a conical body with a light source at the apex and a photocell covered by an optical filter mounted coaxially at the base of the lamp housing. The filter is retained by a pressure pad of e.g. PTFE, and is protected by a transparent cover which pref. is made of polymethylmethacrylate.

The design is light, robust and simple, avoiding the use of reflectors to capture the returning light. 11.1.78 as 000735 (13pp515)

ASAH ★ D12 78491B/43 ★J7 9030-959

Storing fresh fish and shellfish - in vessel contg. water, ammonium nitrogen cpd., water-soluble organic cpd. and carbonate

ASAHI CHEMICAL IND KK 08.12.75-JA-146184

E37 P14 (E19) (03.10.79) A01k-61 A01k-63/02

Fresh fish and shell fish are placed in a compact vessel contg. water, an ammonium nitrogen cpd., a water-soluble organic cpd. and a carbonate at a specific concn., whereby fresh fish and shell fish can be stored with high survival rate for long periods. 8.12.75 as 146184 A01k-61/00; 63/02 (3.10.79) ASAHI CHEMICAL IND. KK (15pp22) (J52069794)

TRIO- D12 78525A/44 #SU -645-524

Fish storage chute on processing machines - with U/profile and retarding flat rail along centre (PT 2.5.78)

TRIO ENG LTD AS 20.04.77-PT-066459 (20.04.77-SU-476514)

*Q35 (30.01.79) *DT2717-483 A22c-25/08*

Storage device for holding fish in a filleting machine, comprises a sloping trough of constant profile. Construction is simplified and safety is increased, by positioning a guide along the centre line of the trough vertically, with means to control the height of the guide relative to the bottom of the trough.

This guide is made in the form of a horizontal bar fastened to vertical supports which are slidably mounted in small sleeves fixed on the ends of brackets. The sleeves contain grub screws which hold the supports in position once the height of the bar has been decided.

Fish of different dimensions can be processed and the guide can be quickly released if the trough becomes blocked.

Helgesen, W. Bul. 4/30.1.79. 20.4.77. as 476514 (2pp29)

MIVE= ★ D12 78701B/43 ★SU -645-635

Meat carcass washing appts. - has rotating units in pairs with bristles arranged as oppositely wound helices rotating at different speeds

MINSK VENDING EQUIP 21.03.77-SU-464663

(08.02.79) A22b-05/08

Device for washing the half-carcasses of cattle comprises working units with flexible elements mounted in pairs, with a gap between them and capable of rotating in opposite directions, plus a suspension track, and sprayers.

Productivity is increased and the washing quality is improved by making the units as spirals, with the flexible elements (bristles) arranged along the helical lines and spring-loaded so that they can move in mutually relative manner.

Dubinskii, L.R., Chaikovskii, A.A., Soloveichuk, S.L. Bul. 5/5.2.79. 21.3.77. as 464663 (3pp29)

NIKO/ ★ D12 78702B/43 ★SU -645-636

Fish abdominal cavity cleaner - has tufts of brush bristles on circular base and spring-loaded strip contg. wedge-shaped cutter to remove intestines

NIKOLAEV A L 04.04.77-SU-476312

(08.02.79) A22c-25/14

Device for cleaning out the abdominal cavities of fish during filleting, comprises rotatably-driven brushes and a means to cut off the intestines at the anal opening, having a wedge-shaped opening with sharpened internal edges. The cleaning quality is improved by more complete removal of the internal organs by spring-loading the mechanism to cut the anal opening and fastening the brushes on to the body on hinges with the help of brackets, so as to form a V-shaped flexible connection with the latter.

Nikolaev, A.L. Bul. 5/5.2.79. 4.4.77. as 476312 (3pp29)

AREN D12 12639A/07 =US 4170-806

Positioning fish for processing machines - using taper pins on endless belt automatically adjusted to fish size

ARENCO AB 05.08.76-SW-008788

*(16.10.79) *DT2735-302 A22c-25/14*

Removal of fish heads involves fish travelling on a conveyor past a cutting blade and uses a tapered arrangement of pins which have free ends that impale the fish through the eye and thus placing it in the optimum position w.r.t. the cutting blade.

The tapered pin arrangement allows fish of different sizes to be correctly positioned and thus reduce overall waste.

The first and second tapered pins are operatively linked to the conveyor by pliers having 2 arms each with a free end which receives one of the pins. Two shafts, each connected to one of the arms in a rotatable manner, rigidly connect the arms by extending between portions of the arms between the free and fixed ends. 29.7.77 as 820040 (6pp397)

KART- ★ D12 78942B/43 ★US 4171-164

Automatic meat blending system with X/ray analysis - to determine fat content of meat streams with blending of lean and fat streams

KARTRIDG PAK CO 12.12.77-US-859579

(16.10.79) B01f-15/04

The appts includes a feed for producing a continuous stream of meat. A fat analysis unit continuously determines, by X-ray analysis the current fat percentage of the stream of meat. A sensor monitors the meat stream to measure the amount of meat passing through the fat analysis unit.

Data from both the fat analysis unit and the sensor is fed to a micro-processor which regulates the feed. A meat blender is positioned downstream of the fat analysis unit and the sensor to mix the meat that has passed through them.

The appts. is used in the large scale formulation of sausage and minced meat accurately blending to a desired fat content. 12.12.77 as 859579 (10pp295)

UNIC D12 56294B/31 =US 4171-381

Wrapping for food products esp. sausages - coated with egg albumin and maillard reaction product to give smoke colour

UNION CARBIDE CORP 27.01.78-US-872769

*Q32 + Q34 (16.10.79) *BE-873-738 A22c-13*

A food casing comprises a casing having a coating over its surface comprising an albumin and a prod. from the reaction of a reducing sugar with an amino cpd.

The amino cpd. is an amino acid, an amino acid deriv. or their mixts. Pref. the casing used is tubular collagen or cellulosic casing coated on its inside. The albumin is present in amt. 2.7-14.0 mg.in^{-2} w.r.t. casing internal surface. Pref. the amino cpd. is 4-amino-butyric acid, glycine, lysine monohydrochloride, alanine, arginine, or monosodium glutamate, and the reducing sugar is xylose, arabinose or dextrose. The coating compsn. also contains a liq. smoke.

The coated casing is suitable for stuffing with a food and for imparting a smear resistant smoke colour to the surface of a food prod. 27.1.78 as 872769 (6pp931)

See Also

D13 GB 1554480

D13: OTHER FOODSTUFFS

GENO ★ D13 77258B/43 ★CA 1063-864
Coffee prod. with good aroma retention - obtd. by treating frozen roasted coffee with water and grinding
GENERAL FOODS CORP 08.09.75-US-610956
(09.10.79) A23f-01/02

Coffee is roasted, cooled with a non-aq. cooling medium to <32°F, treated with water (which freezes as it contacts the coffee surface), ground and packed. The cooling medium can be liq. nitrogen or dry ice. The water may be applied before, concurrently with, or after grinding the coffee, e.g. by spraying on to the surface. The grinding appts. is pref. maintained at <32°F, esp. -30°F, or below; and the water is suitably at about 32°F. The amt. of water applied is pref. 2-4%.

Moisture lost during roasting is added back as free water in a manner which does not cause any loss of flavour volatiles or aromatic constituents. Freshness is preserved. 9. 8. 76 as 258682 (7pp558)

PILL/ ★ D13 77356B/43 ★DL-137-051
Animal bonds comminution to feedstuff - in hammer mill with impact strips and screen plate
PILLING G 13.06.78-DL-205972
C03 (15.08.79) A22c-17/06 A23k-01/10

The bones are converted into a foodstuff by sterilisation at 110°C and by comminuting to a splinter-free product in a hammer mill. When a fluid is added, the prod. is a bone pulp for pigs, and when dry bones are processed, the resulting frits are ideal for laying hens. This retains all nutrient components in the bones and requires no special pre- or after- treatment to produce animal foodstuff of high nutritive value. 13. 6. 78 as 205972(22pp39)

KEGE/ ★ D13 77400B/43 ★DL-137-183
Control system for hydraulic press for degreasing cocoa mass - regulates pump delivery according to load and stroke ratio
KEGEL W 19.06.78-DL-206099
(22.08.79) A23g-01/08

The fat is pressed out of a mass of cocoa in a hydraulic, multichamber press. The press piston is loaded for the transfer of the pressure to the material by a pump with a number of plungers. By means of these, when a predetermined pressure has been rached, the flow of hydraulic fluid is reduced automatically by the opening of the suction valves in the pump block.

The hydraulic pressure exerted by the pump and the amount of stroke of the press piston, or the weight of the cocoa butter pressed out, are converted into equivalent electrical values of the same kind. From them, a differential value is derived from which the behaviour of the mass of cocoa under pressure can be evaluated, and by which the delivery of the pump is regulated automatically.

System increases the output of multichamber presses and expels the maximal amount of butter from the mass without increasing energy requirements. At the same time the risk to the operative of being sprayed with hot grease is reduced. The system ensures the maximal speed of the press dependent upon the characteristics of the mass in the pressing. 19.6.78 as 206099(15pp1045)

FIER- ★ D13 77421B/43 ★DL-137-245
Glucosinolate removal from rapeseed extraction residues - by spontaneous fermentation
FORSCH TIERPROD DUM 19.06.78-DL-206100
C03 (22.08.79) A23k-01/14 A23l-01/20 C12d-03

Reducing the glucosinolate content of rapeseed extraction residues is carried out by moistening the residues and storing them in containers to cause spontaneous fermentation, during which the glucosinolates and their degradation products, viz. alkylene isothiocyanates (ITC) and L-5-vinyl-oxazolidine-2-thione (VOT), are destroyed.

The product can be dried and used in animal feed concentrates. 19.6.78 as 206100(6pp367)

MJOL- D13 47535V/26 =DS 2360-91
Edible spreadable water-in-oil fat emulsion - having low calori and high protein content
MJOLKCENT EKON 15.12.72-SW-016387
*(18.10.79) *DT2360-911 A23d-03/02*

In the prepn. of a water-in-oil fat emulsion of low calorie content and high protein content with the taste and appearance of butter, an aq. phase contg. a protein concentrate obtd. from acidified butter milk and a fat phase of oils and or fats and opt. further additives are prepd.

The aq. phase is mixed with water soluble additives an its pH adjusted to 6.0-7.0. The aq. phase is then emulsified with the fat phase in an amt. of 20 65% in 80-35% of the fat phase and at a temp. above the crystallisation temp of the fat. The resulting emulsion is pasteurised, cooled and packed.

The prod. is stable even with 60% of aq. phase present 6.12.73 as 360911 (7pp068)

MULL/ D13 71740B/40 =DS 2835-381
Expanded animal feed croquettes - contg. vegetable or anima protein, starch, fats and oils, particularly suitable for fish
MULLER E (MUHE/) 12.08.78-DT-835381
*C03 (18.10.79) *BE-876-332 +A23k-01/20*

Prepn. of animal fodder from plant and/or animal protein, raw starch materials, fats and/or oil and additives comprises dispersing the components in water; heating the mix to 125-150° at 110-130 atmos. for 1-2 min., and pressure extruding the mixt. Steam escapes and the prods. expand, then the material is partially dried, (residual water content 20-40°/), and opt. sprayed with liq. fats and/or oils. 12.8.78 as 835381 (3pp047)

EMSL- ★ D13 77499B/43 ★DT 2814-922
Potato protein coagulate for human nutrition - purified by suspension, boiling and solvent extn. to improve organoleptic quality
EMSLAND-STARKE GMBH 04.04.78-DT-814922
(18.10.79) A23j-01

Potato protein, prepd. by heat-coagulating amniotic potato liq., is purified from enclosed, associated or complexed contaminants, e.g. lipids, odoriferous and flavouring components, by a step process comprising suspension, boiling and extn. with a polar solvent.

The potato protein obtd. can contain 93-95% protein and <1% minerals; has a neutral taste and smell and can be used for human nutrition. Lipid removal improved protein storage-stability.

Specifically a 2-step purificn. involves (i) suspn. in ho water at >100°C and (ii) suspn. of decanted coagulate in hot EtOH, whereby lipids are extd. in the aq. EtOH. 4.4.78 as 814922 (9pp200)

SOLL/ ★ D13 77563B/43 ★DT 2815-804
Sugar paste thread extruder - with grooved strand moulding piece between large and small roll
SOLLICH H 12.04.78-DT-815804
(18.10.79) A23g-03/06

Device to form pastes, used in the sweetmeat mfr., into continuous strands consists of a large roll, sepd. by a roll gap from a small roll. The wedge-shaped cavity from the roll gap down is filled up by a strand moulding piece, with a plain contour towards the small roll and a comb-like contour leaving grooves for the strands on the side facing the large roll.

A large variety of pastes can be moulded into strands which can then be subdivided into squares or bars. A simple exchange of the strand moulding piece permits the same machine to be used for different strands. 12.4.78 as 815804 (12pp39)

FERT- ★ D13 77609B/43 ★DT 2838-071
Silage agent - contg. urea phosphate and a metal e.g. sodium, potassium, calcium or magnesium salt of propionic and/or formic acid
FERTILIZERS & CHEM 07 04 78-IL-054465
E11 (D16 E12) (18.10.79) A23k-03/03

ew silaging agents contain a mixt. of (a) urea phosphate nd (b) ≥ 1 metal salt of propionic and/or formic acid. Pref. molar ratio of urea phosphate to metal salt is pref. :1. The agents pref. additionally contain a metal salt of actic or acetic acid, and pref. also contain $CaCO_3$ to form CO_2 by reaction with the organic acid formed during the ilage process. The metal component of the salts is pref. Na, K, Ca and/or Mg. The agents advantageously additionally contain urea, mineral salts of Ca, Na and Mg, paraformaldehyde, molasses, starches and/or flour.

Agents suppress the formation of undesirable microorganisms, and at the same time contain nutrients for the microflora and for the animals to which the silage is to be fed. They are stable and solid in form, and do not cause corrosion problems. 31.8.78 as 838071 (16pp280)

GENO ★ D13 77621B/43 ★DT 2910-667
Soluble coffee prepn. from coffee solids - multistep countercurrent suspension extn. with a high temp. hydrolysis step
GENERAL FOODS LTD 04.04.78-CA-300373
(18.10.79) A23f-01/08

In a 1st step, coffee charge solids are (a) contacted with the extract of the 2nd step in a concurrent wetting process step, to form a suspension which is maintained for a time sufficient to extract the dissolved material until equilibrium is reached. (b) An extract stream is drawn off from 1st step, the partly extd. residue is sepd. as a slurry and dis-charged.

In a 2nd step, the previously washed and partly extd. coffee residue is (c) contacted with the extract stream of the 3rd step, present at a suspension, in a concurrent-hydrolysis-solubilisation process at increased temp. and pressure, e.g. 205°C and 17.6 bar. (d) The pressure extract is discharged as a suspension which is kept at atmos. temp. for a time sufficient to extract the dissolved material until equilibrium is reached. (e) An extract stream is recovered from 2nd step and charged to 1st step. The extd. coffee residue is sepd.

In a 3rd step, the extd. coffee residue is (f) contacted as a suspension with charge water in a concurrent extn. and-washing process at atmos. pressure. The suspension is maintained for a time sufficient to extract the dissolved material until equilibrium is reached. (g) the washed extd. coffee residue is sepd. An extract stream is recovered from 3rd step and introduced to 2nd step. (h) The concn. extract liq. of 1st step is dried to prepare the coffee prod. 19.3.79 as 910667 (pp200)

CIBO/ ★ D13 77666B/43 ★DT 2914-542
Concentrated hot product cooling system - in several expansion stages with condensers for cold product flow
CIBOIT J 11.04.78-LU-079411
Q75 (18.10.79) A23c-09 B01d-01 F25d-09

A cooling system for hot concentrated prods. from an evaporator, esp. for condensed milk uses several expansion stages. A condenser in each expansion stage condenses the released vapour. One (or more) of the condensers is crossed by the low-temp. prods. which are heated thereby and then passed to the evaporator for concentration.

This eliminates the main drawbacks of the conventional system, i.e. large consumption of steam (thermocompressors) and of cooling water. 10.4.79 as 914542 (20pp39)

BAKP ★ D13 77667B/43 ★DT 2914-543
Filled confectionery bars - made in endless chain moulds, with separating webs, by concentric nozzle
BAKER PERKINS HOLD 11.04.78-GB-014178
(18.10.79) A23g-01/22 A23g-03

Bars of confectionary with a centre filling of a different material are produced in moulds, each containing several (three) trough-like sections, separated by webs. Each section is filled in turn through a nozzle with a central and a coaxial annular opening, each fed by a separate plunger. The plungers are programmed and phased to wrap the coating around the centre filling and to overflow to the next section.

This system can now be applied, not only to chocolate paste as the coating material, but to caramel, jelly and other sweetmeat pastes. 10.4.79 as 914543 (15pp39)

BIRO/ ★ D13 77691B/43 ★FR 2414-303
Stable urea-molasses cattle food additive - with some of the urea complexed with fats or fatty acids and functional derivs.
BIROLAUD P 11.01.78-FR-000637
C03 (14.09.79) A23k-01/22

Prepn. of cattle food additive comprises mixing under pressure at room temp. 45-80% of urea, 5-25% of fatty acid or fat, glycidic acid solns. (5-35% dry matter, and 5-25% of water) to form in situ a fatty acid/urea complex in which the glycidic acid soln. remains inside to give a solid, pulverulent prod.

The ternary mixture is easy to manipulate and store, are clean to the touch and are not hygroscopic. Pref. fatty acids include oleic acid, butyric acid, etc. and in general, saturated or unsaturated 4-22C acids and their functional derivs. such as esters, amides and alcohols. Fats include animal or vegetable prods. such as suet, soya bean oil, arachis oil, etc. Glycidic acids include molasses from beet sugarcane, maize etc., wine washings, hydrolysates, etc. 11.1.78 as 000637 (9pp289)

MILE D13 15969A/09 =GB 1554-480
Prepn. of protein concentrate with fish texture - by extracting protein extrudate with aq. solvent at pH 4.4 to 4.8
MILES LABORATORIES INC 22.10.76-US-735002
*(D12) (24.10.79) *BE-859-999 A23j-03 + C07g-07*

A textured protein concentrate of meat-like texture and bland flavour is prepd. from protein extrudate contg. water soluble constituents. In the process, the water-soluble constituents are extracted from an extrudate of density 85-150 $g.l^{-1}$ on a dry wt. basis after drying to < 8% moisture, with an aq. solvent of pH 4.4-5.5 at 65°C.

Pref. the extraction is carried out at pH 5.4-5.5 to obtain a concentrate having the texture of tender lean portions of beef, pork- poultry or shellfish, or at pH 4.4-4.8 to obtain a concentrate having the texture of fish. The major portion of water-soluble constituents are extracted from the extrudate to provide a concentrate having ≥70 wt.% of protein.

The prods. are used to prepare hamburger-like meat patties, sausages, meatloaf, lean sirloin, chicken loaf, lean pork, tuna-fish cakes and shellfish cakes. 27.7.77. as 031656 (5pp931)

GRAC D13 42538A/24 =GB 1554-525
Feed supplement for ruminants to prevent lactic acidosis - contains cells of Megaspaera elsdenii and a propionic acid synthesising bacteria
GRACE W R CO 07.12.76-US-748210
*C03 (D16) (24.10.79) *DT2754-150 A61k-35/66*

Compsn. for admin. to ruminants comprises a bacterial culture of Megasphaera elsderii (I) and an orally ingestible animal feed additive. Pref. the compsn. also includes monensin and a bacterial culture (Selenomonas ruminantium) having ability to produce propionic acid. Pref. the compsn. is in capsule form contg. 10^6-10^{12} microorganisms.

The compsn. is used to adapt ruminants to a high energy diet. (I) has high utilisation of lactic acid. 5.12.77. as 050582 (12pp964)

TRAN- D13 88552A/49 =GB 1554-527
Inhibition of bacterial growth in fruit and vegetable
TRANSFRESH CORP 04.04.77-US-784528
*(24.10.79) *J53124-646 A23b-07*

The growth of fungi on fresh fruits or vegetables are inhibited by maintaining the produce at 29-60°F in a modified gaseous atmos. The atmos. contains 0-20 vol. % of CO_2, 1-20 vol. % of O_2, 3-25 vol. % of CO (but not concurrently CO_2: ≥1 vol. %; O_2: ≥1.8 vol. % ; CO: ≥5 vol. %). The remainder is N_2.

The process esp. inhibits fungal growth on bell peppers, tomatoes, squashes, pineapples, peaches, papaya, nectarine, mangoes, melons, eggplants, green beans, apples, pears, apricots, cherries, cabbages, avocadoes, lettuces, potatoes, onion and sweet potatoes using differing proportions of gas in the atmos. 8.12.77. as 051200 Add to 1551432 (8pp931)

ADOL/ D13 40420A/23 =GB 1554-534

Animal foodstuffs obtd. from brewery residues - enriched with yeasts, preservative and mineral supplement

ADOLPHE M 09.01.78-FR-000407 (05.10.77-FR-029952)
*C03 (D16) (24.10.79) *BE-863-447 A23k-01/22 A23k-03*

An animal feedstuff is prepd. by mixing a residue obtd. after extractive treatment of plant material with inactivated brewer's yeast and other additives. The cells of the brewer's yeast are ruptured by hydrolysis and mixed in a wet state with the residue, a nutritional supplement and a siloing preservative.

Prei. free water is removed from the residue before the yeast is mixed with it. The residue is brewer's draft, beet pulp, a forage plant cake, a fruit pulp, grape pulp, marc or lucern cake. The nutritional supplement comprises P, Ca and trace elements , and the siloing preservative comprises calcium formate, propionate and acetate plus urea phosphate.

The feedstuff is esp. used for feeding cattle and other livestock. The feedstuff may be packed in plastic bags and then deaerated. 31.1.78. as 003909 (5pp931)

TRAN- D13 79449X/43 =GB 1554-634

Water sepd from cenent, lime etc by decantation - to form settled solids in blocks for mfr of cattle feed, fertiliser, and fillers

TRANSPORTBETONBERA 06.06.75-DT-U18028
*C03 J01 L02 +P41 (C04 D15) (24.10.79) *BE-842-572 +B01d-21/02*

Water treatment plant has a settling arrangement formed by a purification chamber and a movable solids receiving container which can be connected to the chamber. The junction between the movable container and the purification chamber has a continous seal member with a hollow cross section.

The arrangement permits the easy exchange of the solids collecting container thus allowing continuous operation of the purification plant. The method is esp. suitable for treating water containing lime or cement residues. In some processes the resulting solids collected can be used as raw materials for feeds, fertilisers, or fillers. 28.5.76. as 022213 (10pp397)

MILK- ★ D13 77748B/43 ★GB 1554-644

Storage stable milk powder prod. - contg. butter oil free of hydrophilic, lipophilic phospholipids, and opt. conc. skim milk

MILKFOOD AB 02.09.76-GB-036330
(24.10.79) A23c-09/16

Prepn. of a powder prod. based on milk fat and skim milk (I) comprises mixing butter oil (II) free of hydrophilic and lipophilic phospholipids with opt. conc. (I). The mixt. is emulsified, homogenised, and dried to affords the powder prod.

The powder prod. has a prolonged storage life, good resistance to taste variations, and may be used in place of fat powders based on vegetable oils in chocolate, mashed potato powder, cake and soup mixes, etc. The powder prod. may be a whole milk, cream, or milk fat powder. 2.9.76. as 036330 (4pp478)

NIPK D13 31526V/17 =J7 9030-021

Water-soluble anionic acrylate polymers prepn. - by polymn. of acrylic acid alkali metal salts in aq. media contg magnesium salts

NIPPON KAYAKU KK 04.05.72-JA-043657
*A14 C03 (27.09.79) *J49006-071 +C08f-02/10 C08f-20/06*

Acrylic acid alkali metal salts were polymsn. in aq. med media contg. 0.00005 mole/l. Mg salts to give the high-mol.wt. electrolytes useful as coagulants, thickeners, modifiers, food additives, pastes, and dispersants.

In an example, 52 g. of 99% acrylic acid was added to 30 g. of 97% NaOH dissolved in 120 g. distd. H_2O and the soln. obtd. adjusted to pH 11.5 with 1 ml. of 2% aq. $MgCl_2$ mixed with 2 ml. of 1% aq. $K_2S_2O_8$, and polymsd. for 6 hrs. at 20°, in N_2 to give 66 g. poly Na acrylate, $[\eta]$ 8.7 dl./g. (2N NaOH, 30°). When $MgCl_2$ was not used, the yield dropped to 33.1 g. 4.5.72 as 043657 C08f-20/06; 2/10 (27.9.79) NIPPON KAYAKU CO. (3pp) (J49006071)

BUTT= ★ D13 78578B/43 ★SU -644-4

Cheese whey prodn. drum - ensures continuous whey extraction having cutter frames mounted on central axle carrying whey out pipe

BUTTER CHEESE IND 24.03.76-SU-337842
P13 (08.02.79) A01j-25

The cylindrical drum has a double wall forming the heat jacket and inside the drum is the cutter stirring frame. On the outer end wall is the whey extractor pipe and on the other end wall is the inlet valve for the milk. On top of the drum is an elongated inspection cover for installin the cutter stirring frame and there is an observation aperture through which samples can be taken.

Bartenev, S.I. Bul. 4/30.1.79. 24.3.76. as 337842 (4pp 118)

BUTT= ★ D13 78579B/43 ★SU -644-42

Cheese multiple press bogie unit - has section of rails with variabl rate of incline increasing towards outlet end, to improve prodn.

BUTTER CHEESE IND 09.08.76-SU-391978
P13 (08.02.79) A01j-25/15

The cheese press moulds are located ten to each bogie which is located in a tunnel. Roller of pressure rod contacts the lower surface of the inclined rail so that a trigger is released, allowing press plate to drop on to the cheese in the mould.

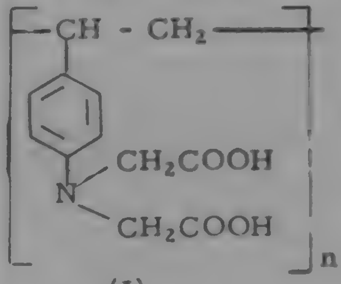
Zhuchkov, V.M. Bul. 4/30.1.79. 9.8.76. as 391978 (3pp 118)

AUCO= ★ D13 78602B/43 ★SU -644-78

Neutral aminoacid sepn. by liquid chromatography - using ior exchange resin contg. amino-di:acetate gps. and copper ion useful in food and medicinal prod. mfr.

AS UKR COLLOID CHEM 03.03.76-SU-330104
B05 E19 (20.04.79) C07c-99/12

Sepn. of neutral aminoacids by liquid chromatography gives improved quality by using monofunctional ion-exchange resin with aminodiacetate groups of formula (I):



(I)

(where n is 200-300) and eluting with distd. water. The acids are initially passed through resin contg. 40-50 wt.% substitution and then through resin in neutral form.

The method may be used in medicine and food industry. The Cu form of resin is prepared by treating KhKA-2 resin in neutral ammonia form with $Cu(NO_3)_2$ soln.

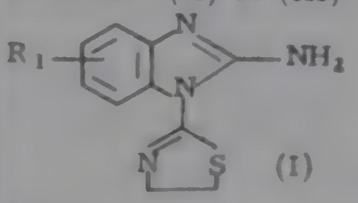
Sinyavskii, V.G., Dzyubenko, A.V., Kurilenko, O.D. Bul. 4/30.1.79. 3.3.76. as 33014 (4pp114)

ELIL D13 59427Y/34 #SU -645-57

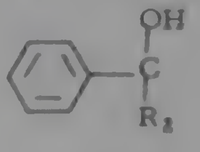
(1)-Thiazolinyl-(2)-amino-benzimidazole derivs. - antivirals active against polio, Coxsackie, echo, Mengo, influenza and partic. rhinoviruses

ELI LILLY & CO 18.02.77-BE-851631
*B02 (30.01.79) *BE-851-631 A61k-31/41 C07d-417/04*

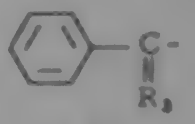
Physiologically active 5(6)-substd.-1-(thiazolin-2yl)-2-amino-benzimidazole of formula (I) where R_1 is gp. of formulae (II) or (III):



(I)



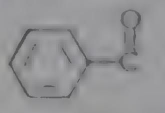
(II)



(III)

(where R_2 is 1-4C alkyl and R_3 is 1-4C alkylidene in 5 or 6 position. They are described as new.

These cpds. are prepd. by reacting corresp. benzoylbenzimidazole of formula (I) where R_1 is gp. of formula (IV) with 1-4C alkyl-lithium in organic solvent, e.g. THF.



(IV)

The resulting prod. is subjected to hydrolysis to give final prod. of formula (I) (where R_1 is gp. of formula (II)). The prod. is opt. dehydrated in the presence of strong acid, e.g. p-toluene-sulphonic acid to give final prod. I (where R_1 is gp. of formula (III)).

Paget, C. J., Chamberlain, J.W., Wickel, J.H. Bul. 4/30 1.79. 18.2.77. as 454657 (2pp938)

IMEA= ★ D13 78703B/43 ★SU -645-637
Afr. of condensed milk prods. - by concentrating mixt. of milk and yrup contg. lactose hydrolysed by beta-galactosidase to improve torability
UKR MEAT DAIRY IND 30.09.77-SU-523677
(08.02.79) A23c-09

Condensed milk prod. is obtd. by pasteurising normalised nilk, introducing a sugar-contg. syrup, concentrating and cooling the product.

The prod. contg. more soluble sugars is obtd. using a syrup prepd. by dissolving milk sugar in water or skimmed milk, subjecting the resulting concentrate to hydrolysis by introducing β-galactosidase (at 10-45°C for 1-5 h). The concn. of the milk sugar in the concentrate is 10-40%.

The enzyme is introduced in an amt. of 3-5% w.r.t. the lactose present in the concentrate. The mixt. of the milk and the syryp is concentrated 2.5 times.
Sokolov, Yu.S., Gulyaev-Zaitsev, S.S., Popova, N.G. et at Bul. 5/5.2.79. 30.9.77. as 523677 (2pp70)

STAV= ★ D13 78704B/43 ★SU -645-638
Prodn. of milk from reconstituted milk powder - using compressed air stream for conveying milk powder and mixing it with water to accelerate prodn.
STAVROPOL POLY 06.09.77-SU-526617
(08.02.79) A23c-09

The milk powder components dissolution is accelerated by conveying the milk powder (preliminarily subjected to comminuting to disintegrate crumbs) into the mixer using a stream of compressed air (2-3 atm.).

The milk is dissolved in water instantaneously as the air stream exerts the mixing action.
Shuvaev, V.A., Kunichev, S.M., Kharitonov, V.D. Bul. 5/5.2.79. 6.9.77. as 526617 (2pp70)

UMEA= ★ D13 78705B/43 ★SU -645-639
Butter having high biological value prodn. - using low fat cream non-fat components, e.g. egg powder, to improve flavour and nutrient value
UKR MEAT DAIRY IND 30.09.77-SU-523678
(08.02.79) A23c-15/02

Butter having a relatively low fat content and high content of biologically valuable nonfatty substances is produced by sepg. from milk, cream contg. 40-60% of fat, pasteurising the cream at 75-80°C, cooling to 10-20°C, and mechanically working at 3,000-20,000 Joule/kg.

Taste of butter is improved. Losses are reduced and the prodn. costs are reduced.
Gulyev-Zaitsev, S.S., Dobronos, V.G. 30.9.77. as 523678 (2pp70)

UMEA= ★ D13 78706B/43 ★SU -645-640
Low fat high protein butter prodn. - from high fat cream and milk protein concentrate from skimmed milk ultrafiltration
UKR MEAT DAIRY IND 06.09.77-SU-526623
(08.02.79) A23c-15/02

Butter can be produced by performing a two-stage sepn. of high-fat cream, admixing a concentrate of proteins contained in milk, and churning the mixt. to form butter.

High protein content butter is obtd. by using a protein concentrate obtd. by ultrafiltration of the two fractions of skimmed milk. This concentrate is added in such an amt. that the fat content of the mixt. is 40-70%. By this method all the milk components are utilised, and a product having high biological value is obtained.
Eresko, G.A., Gulyaev-Zaitsev, S.S., Tkachuk, S.P. et al. Bul. 5/5.2.79. 6.9.77. as 526623 (2pp70)

BROW- ★ D13 78914B/43 ★US 4170-935
Fruit juice extn. by frusto conical disc - pressing against stationary surface with grid bar pulp separator (ZA 23.8.79)
BROWN INT CORP 17.10.77-US-842549
P28 +P71 (16.10.79) A23n-01 A47j-19/02 B30b-03/04 B30b-09/20

Appts comprises a pair of frustoconical discs which are rotated in synchronism but whose axes are mutually inclined. A stationary plate is sandwiched between the discs and creates a pair of paths along which fruit can be advanced. Whole fruit is introduced at a section of the appts. slightly upstream of the point of closest approach between the discs and plate. A knife is located at the upstream face of the plate to bisect the fruit.

The frusto-conical discs carry the fruit halves along divergen paths to a sepn station where grid bars separate the pulp from skin. Pref. this station is at the point where the disc is at its greatest spacing from the plate and a toothed roll is interposed so that its teeth extend between the grid bars.

The toothed roll and grid bar in the final section cuts pulp from the skin and thus remove the need to employ a high compression force which might have released undesirable peel oil. 17.10.77 as 842549 (13pp295)

RALS D13 75608B/42 =US 4171-379
Reducing iron deficiency in suckling piglets - by feeding them a solid feedstuff block contg. an iron cpd.
RALSTON PURINA CO 05.04.78-US-893735
*B05 C03 (16.10.79) *DT2913-790 A23k-01*

Method of preventing iron deficiency in baby pigs comprises the steps of administering a hard nutrient feed block to the baby pigs. The block comprises 1.5-3.5% by wt. elemental iron, 5-30% fat, 3-15% magnesium oxide, 1-9% phosphorus source, and 0.5-5% clay. 5.4.78 as 893735 (-pp)

CORP D13 69953B/39 =US 4171-38
Starch and animal feed prodn. from wheat grain - by combined dr and wet milling
CPC INTERNATIONAL INC 11.05.78-US-904953
*C03 P41 (16.10.79) *BE-876-125 +A23k-01*

A continuous process for refining whole grain wheat to obtain a prime wheat starch fraction and an animal feed prod. comprises dry milling wheat kernels to provide an endosperm fraction, a germ fraction, a fibre (bran) fraction and a cleanings fraction.

The endosperm fraction is wet milled to provide a mill starch slurry, the fine fibre tailings are removed, and the slurry separated into a starch-rich and protein-rich fraction. The fibre (bran), cleanings, fine fibre tailings, protein-rich concentrate, and the germ fraction are directly combined to provide a wet animal feed prod. which is then dried.

Wheat starch is separated off in high yield, and the we milling sequence uses short steeping times. All the majo constituents of wheat are used in the formation of end pro ds. 11.5.78 as 904953 (5pp931)

RALS D13 75604B/42 =US 4171-38
Prepn. of molasses based animal feedstuff blocks - from molasses, phosphorus cpd., clay, animal fat and magnesium oxide to set th mixt.
RALSTON PURINA CO 05.04.78-US-893734
*C03 (16.10.79) *DT2913-776*

Prepn. of molasses based feed block comprises (a) admixing (i) 18-74 wt% molasses; (ii) ammonium polyphosphate or tetrasodium pyrophosphate, (iii) 0.5-5 wt% water absorbent clay; and (iv) 5-30 wt% water under high speed shearing action; and (b) admixing 5-30 wt% animal fat and MgO in an amt. effective to obtain a viscous nitrient mixt that solidifies to form a hard weather resistant block with water activity 0.8-0.9.

Pref. the MgO is present as 5-20 (esp. 6) wt% Prod. is esp. an animal feed block, for use as a feed supplemen Block is hard and depackagable. 5.4.78 as 893734 (4pp93

RALS ★ D13 79029B/43 ★US 4171-38
Animal feed-block contg. magnesium oxide and ferrous sulphate which is solid, quick setting and weather resistant
RALSTON PURINA CO 05.04.78-US-893736
C03 (16.10.79) A23k-01/02

An animal feedblock comprises 18-65 wt% molasses, 3-15 wt% magnesium oxide, 8 wt% ferrous sulphates, 0.5-5 wt% clay, 4-9 wt% monobasic salt of phosphoric and, 5-20 wt% water and 5-30 wt% fat and has a water activity of 0.8-0.9. It may also contain other nutritive ingredient and medicaments. The block is solid, weather resistant and palatable, and sets at room temp. within 1 hr.

The block may be prepd. by mixing the molasses, phosphoric acid salt, water absorbent clay and water under high speed shearing action then mixing in the fat, ferrous sulphate and magnesium oxide. Pref. the magnesium oxide amt is 7 wt% and the salt is monoammonium phosphate. Altapulgite clay is pref. The essential ingredients for producing a hard block quickly are the magnesium oxide and the ferrous sulphate. Dry ingredients such as vitamins and minerals in an amount of 0-15 wt% may be added along with these and the fat. Other optional ingredients specified include ammonium polyphosphate (up to 3 wt%) and tetrasodium pyrophosphate (up to 5 wt%). 5.4.78 as 893736 (5pp476)

TOYJ D13 35979A/20 =US 4171-430
Separating natural sweeteners, such as glucoside(s) - by column chromatography using a porous gel having a low pore size, such as styrene gel
TOYO SODA MFG KK 16.09.76-JA-109856
*A89 B05 E19 (16.10.79) *J53038-669 +C07h-01/08*

Method of resolving glycoside and non-glycoside smelt components heaving a mol. wt. of 250-1000 in a netural sweet extract, comprises (a) passing a soln. of the extract over a column of porous organic gel having a pore dia. suffi ient to achieve the desired resolution which is $<1x10^4$A and (b) eluting the resolved glycoside and non-glycocide components from the gel with eluant.

Pref. the glycoside is stevoiside, glycyrrhizin acid, or neohesperdin dihydrochalcone and the non-glycoside component in phylodulcin or perillartine. The gel is pref. cross-linked styrene or starch gel and the element is a non-polar organic solvent or water-miscible organic solvent.

Method is fast, simple and effective. 26.8.77 as 828201 4pp393)

KRFT ★ D13 79095B/43 ★WP 7900-837
Appts. for pressing and deaeration of curd cheese - with vacuum drawn in space between press plate and receptacle cover
KRAFT INC 27.03.78-US-890526
P13 (18.10.79) A01j-25/13
D/S: N(DT).

Curd is moulded into a cheese block in a rigid open-topp receptacle. The walls of the receptacle are cylindrical, the top being flanged to form an upper bearing surface. press plate is inserted into the open top of the receptacl on top of the curd mass. The press plate has an upturned peripheral flange forming a fluid reservoir on its upp surface. There is at least one orifice through the plate formed with upstanding side walls.

A rigid cover has a resilient material on its lower surface for engagement with the upper bearing surface o the receptacle. A vacuum may be drawn in the space between the cover and plate causing an air-tight seal betwee the receptacle and cover. Pressure is applied to force the press plate against the surface of the curd with residual whey being forced through the orifice to collect in the reservoir.

The appts. is used to press and deaerate curd pieces i a mould and to remove residual moisture from the curd prior to curing.

The curd is deaerated at the same time as it is being pressed.

26.3.79 as US0190 (12pp295)
(E)ISR: US2109559; US2959900; US3748072; US-929384; US2139542; US2714349; US2742367.

See Also

D15 J5 4118656	D15 J7 9029994	D16 BE 877034
D16 DS 2809759	D16 GB 2018822	D16 J5 4119088
D16 SU 632202	D16 SU 644832	D17 US 4171383

D14: FOODSTUFF MACHINERY

SCHN/ ★ D14 77233B/43 ★BE -877-150
Rotary food mincer with trap for metal foreign bodies - which are centrifuged out of axial flow of prod.
SCHNELL K 22.06.78-DT-827369
P41 (15.10.79) A22c B02c

A machine for mincing chopping or similarly size-reducing a prod. partic a food prod., is of the type empolying a rotary cutting or pressing tool. To reach the tool, the prod has to be passed through axial holes in a centrifugal rotor keyed coaxially to the tool shaft. The rotor has an annular collecting channel surrounding the axial holes and designed to catch items flung outwards by the centrifugal rotor, specifically metal inclusions to be sepd. from the prod.

The collecting channel is pref. located on the circumference of the centrifugal rotor. The channel is pref. integral with the rotor eg. in the form of a channeled flange around the circumference of the rotor.

Used as a rotary mincer, chopper etc. for size-redn of food prods. partic meat.. Items of greater density than the prod. are centrifuged into the collector channel before they can reach the tool. This means that any nuts, bolts, meat-hooks, coins etc. which fall into the prod. are trapped before they can damage the rotating tool. 21.6.79 as 877150(10pp448).

TAAR- ★ D14 B/43 ★DK 7900-341
Lye treatment appts. for chopped crops
MASKIN TAARUP A/S 26.01.79-DK-000341
(01.10.79) A23n

ATHE/ ★ D14 77352B/43 ★DL -137-017
Measurement of consistency of deformable substances such as foodstufs - by applying resistance force of substance against larger force of test body acting upon substance
ATHENSTADT D 07.06.78-DL-205844
A35 J04 R16 (08.08.79) G01n-33/02

In the non-destructive measurement of the consisting of pasty of plastic media, force compensation is effected by the counteraction of a force generated pneumatically, electrically etc.

A measuring element transmits the force quantity (x_b) proportional to the measured quantity (X_e) to a lever arm. The displacement releases in the tapping system a voltage signal which is fed after amplification in an amplifier to a compensation system so as to compensate (X_b). The compensation force reduces the displacement to a permanent control deviation.

Useful for testing bakery products, confectionery, fruit and vegetables, and also meat and milk products. 7.6.78 as 205844(7pp1142)

JAGN D14 31645B/17 =DS 2757-897
Automatic dispenser of tiny doses of liq. - esp. hydrogen peroxide, to sterilise plastic coated milk cartons before filling
JAGENBERG WERKE AG 24.12.77-DT-757897 (00.00.77-DT-708422)
*Q39 R13 +P34 Q31 Q56 (18.10.79) *BE-873-023 A23c-03/02 B01j-04*

Predetermined, small, measured quantities can be delivered continuously from a large supply vessel into a measuring vessel by a pump consisting of a neck and a foot, the foot at least of which can be submerged in the fluid in the supply vessel.

The foot has a fluid capacity adjusted to the definite volume which has to be loaded into the measuring vessel. At the bottom of the foot there is an inlet which can be closed by a non-return valve. A feed close to the bottom opens into the measuring vessel, and the vol. of liq. in the foot can be loaded by pressurised gas through the pump neck.

A constantly accurate quantity, say of H_2O_2 for disinfecting plastic coated half and 1l milk containers can be nsured irrespective of the falling level of the liq. in the upply vessel, by having the pump neck smaller in dia. han the foot. 24.12.77 as 757897 (Add to 2708 422)(7pp)

CHE/ ★ D14 77627B/43 ★DT 2912-477

traw cutting machine - with revolving cutter blades and reactant pray nozzles in blower air stream

SCHERZ K 30.03.78-OE-002259

P12 (18.10.79) A01f-29 A23n-17

Appts. for breaking up straw by spraying with a reactant such as caustic soda soln. includes revolving cutter blades on a circular disc which cooperates with stationary counter blades. Prongs inside the ring of blades feed the straw to the latter. The spray nozzles are arranged to inject the reactant liq. into the air stream of a blower which carries away the broken up and sprayed chaff.

Bales of straw are automatically cut up and the split stalks are sprayed uniformly both on the inside and outside by the atomised liq. 29. 3. 79 as 912477 (15pp39)

FREU/ D14 27225A/15 =GB 1554-512

Chopped straw homogeniser - with revolving horizontal pairs of rotors with blades cooperating with adjustable side channels

FREUDENDAHL J A 05.10.76-DK-004487

*+P12 (24.10.79) *DT2743-552 +B01f-07*

An appts. for homogenising straw cuttings, to which lye has been applied to dissolve lignin in the straw, comprises an elongate container which is horizontal when in use; ⩾1 pair of parallel rotors , one above the other when in use, which extend between opposite ends of the container; and internal projections from the inner wall of the container.

The rotors comprise elongate shafts carrying vanes arranged so that, on rotation of the shaft, the vanes carry the straw cuttings from the inlet at one end to the outlet at the other, and press the cuttings against the projections.

The appts. is of the same size and cost as prior art appts., and gives homogenisation of the straw cuttings so that additional treatment is superfluous. 29.9.77. as 040493 (4pp976)

HUGH- D14 82856Y/46 #GB 1554-692

Feed mixer having a conical mixing chamber - contg. a tapered auger connected to a drive

HUGHES STEEL PROD 15.10.76-ZA-006162 (19.01.78-GB-002219)

*P12 (24.10.79) *ZA7606-162 B01f-07/08 +B01f-15/02*

A mixer for animal feedstuffs comprises an inverted vertical, conical mixing chamber contg. a tapered auger attached, by its narrow end, to a drive at the base of the chamber. The upper end of the auger rolls around the upper periphery of the mixing chamber and has a wheel or roller which ensures that the auger does not contact the chamber walls. The wheel or roller is held in contact with the upper periphery of the mixing chamber by the wt. of the auger.

The device is used for grain, hay., feed concentrate, etc. It eliminates dead corners, etc. and produces a satisfactory mix. 19.1.78 as 002219 (5pp976)

TOYM ★ D14 78148B/43 ★J5 4119-037

Cooking food direct from the refrigerator - using high temp. oven, with food wrapped in heat resistant film, esp. of polyester

TOYOBO KK 01.03.78-JA-023956

*A92 (14.09.79) A21d-15 A23g-03 A23l-01/**

Food packaged in a heat proof film is removed from a refrigerator then immediately cooked in a high temp. oven.

The heat proof film for packaging the food is produced from a polymer having a m.pt. of ⩾200°C and the polymer comprises polyester, polyamide, polycarbonate, polyester-imide and polysulphone. A polyester film has a superior chemically sanitary nature and a higher mechanical strength at its refrigerating step. A pref. polyester consists of (a) dibasic acid component and (b) glycol component. The dibasic acid component(a) is chosen from terephthalic acid, isophthalic acid, naphthalene- dicarboxylic acid, adipic acid or sebacic acid and the glycol component (b) is chosen from ethylene-glycol, propylene-glycol, butane-diol, polyethylene-glycol, polytetramethylene-glycol, neopentyl-glycol, cyclohexane-dimethanol or adduct of bisphenol A - propylene.oxide. The most useful polyester is PET.

The process is used to cook shao-mai, hot cakes, sponge cake, hamburgers and meat balls. 1.3.78 as 023956 (4pp15).

TOYM ★ D14 78150B/43 ★J5 4119-041

Packaging food in heat proof film esp. of polyester - with second film applied during cooling after cooking and sterilisation stage

TOYOBO KK 27.02.78-JA-022306

A92 Q31 (14.09.79) A23l-03/02 B65b-55/02

A process forpackaging food in a heat proof film is claimed in which the food is packaged with a tight-sealable, heat proof film and the packaged food is treated with a cooking and sterilising step at a high temp. and then, during its cooling step, the packaged food is again tightly sealed with the thermally proofed film.

The heat proof film is produced from a polymer having a m.pt. ⩾200°C and is suitably polyester, polyamide, polycarbonate, polyester-imide or polysulphone. A polyester consisting of terephthalic acid and glycol is pref.. A dibasic acid component for the polyester is chosen from isophthalic acid, naphthalene-dicarboxylic acid, adipic acid, sebacic acid or dodecanoic diacid and a glycol component for the polyester is chosen from ethylene-glycol, propylene-glycol, butane-diol, polyethylene-glycol, polytetramethylene-glycol, neopentyl-glycol, cyclohexane-dimethanol, or adduct of bis-phenol A and polypropylene oxide.

A PET film or a polytetramethylene-terephthalate film is esp. pref..

The food may be bread, hot-cake, sponge cake, potato, hamburger or meat-ball. 27.2.78 as 022306 (4pp15).

NCAU= ★ D14 78707B/43 ★SU-645-641

Food puree prodn. sieving machine - has floating elastic plates on rotating beaters, increasing yield and keeping sieve holes clear

NORTH CAUCASUS VINI 12.05.76-SU-359803

P41 (08.02.79) A23n-15 B02c-19/20

Machine producing fruit and vegetable juice and puree comprises a feed hopper and a frame holding a cylindrical sieve chamber in which is a shaft carrying holders mounted the ends of beaters. To ensure that sieve openings are kept clear and to improve output, a pocket rigidly secured at the outer end of each beater holds an elastic plate with a chamfered upper edge.

This increases yield by 5-10% and throughput by 50-100%.

Medvedev, V.A., Durnev, B.A. Bul. 5/5.2.79. 12.5.76. as 359803 (3pp1358)

MOME= ★ D14 78874B/43 ★SU-646-171

Granulated food products dryer - has electric heater made as flexible thermoelectric cable element spirally placed around the chutes

MOSC MEAT DAIRY IND 13.09.77-SU-536317

Q76 (08.02.79) F26b-05/04 F26b-17/26

The granulated food product dryer is provided with a vacuum chamber containing a frame with staged chutes connected to a vibrator and electric heater. In order to increase operational reliability the electric heater is made as a flexible thermoelectric cable element, placed along a spiral line around the chutes with a pitch which increases in the prod. flow direction. The base of each chute is made of bimetal with a different thermal linear expansion coefficient.

Antipov, A.V., Baibuz, V.N., Kamovnikov, B.P. et al. Bul. 5/5.2.79. 13.9.77. as 536317 (3pp110)

INDI- D14 64723X/34 =US RE30-112

Steamer for fruit canning etc. in shallow pan - comprises plate with steam tubes and drain legs, and vented cover

FOUND INDIAN DEV (ANDE/) 13.05.74-US-469544 (10.08.78-US-932886)

*(16.10.79) *US3973-480 A23l-03/10*

Appts for canning or bottling food comprises a platform which can be supported in a water filled electric frying pan. The platform has a removable cover in which the containers to be heat treated are placed.

The legs supporting the platform are hollow and allow steam and condensed steam to circulate between the water and the chamber. Additional holes are provided in the platform to give additional circulation.

The arrangement is simple and compact. 10.8.78 as 932886 Reissue of 3973480 (13.5.74 - US - 469544) (4pp)

D15: WATER TREATMENT

MESG ★ D15 77237B/43 ★BE-877-162

Treating water for drinking using ozone and oxygen - with mixing effected in a water jet gas compressor

MESSER GRIESHEIM GMBH 21.06.78-DT-827151

(15.10.79) C02b C02c

In the prepn. of drinking water or the purificn of used water, in which undesirable materials are oxidised, to assist their sepn. by flocculation, at least a partial current of the water to be treated is passed under pressure into a column packed with filling material in contact with an ozone/oxygen mixt. from an azone produces. The ozone and a part of the oxygendissuling in the water and the undissolved oxygen are recycled to the ozone producer and the water contg. oxygen and ozone is eracuated from the column.

Improvement is that the water to feed the column is derived from a partial current which is passed into a water jet gas compressor in which the oxygen/ozone mixture is compressed and mixed with the partial current; the resulting mixt is then fed to the packed column.

Compression is much less costly than a water ring compressor, also friction in compression is avoided and further a small column may be used. 21.6.79 as 877162(7pp)

BESI/ ★ D15 77264B/43 ★CA 1064-169

Purification of waste water using single sludge system - in vertically partitioned single reactor contg. fluidised non-biodegradable solids

BESIK F 01.04.77-CA-275345

(09.10.79) C02c-01/06

Waste waters contg. carbonaceous materials, nitrogenous materials, phosphorus and suspended solids are purified in a single tank having three reaction zones. Processes effected in the zone include adsorption of dissolved organic matter by fluidised suspended particles, bio-oxidation of biodegradable organic matter, ammonification and chemical pptn. of phosphorus. Pref. there is a fourth zone in which toxic residues are chemically oxidised. There is continuous separation of the fluidised bed solids fromthe purified waste water and recirculation of the solids between the three reaction zones.

The purification process is not affected by shock hydraulic and organic loadings and produces min. excess sludge Appts. to effect the purification requires little space and essentially no maintenance. 1.4.77 as 275345 (28pp1044)

BESI/ ★ D15 77265B/43 ★CA 1064-170

Small/scale sewage treatment in self-contained tank - contg. aeration chambers, multichannel solids separator, flow rate equaliser and charcoal contg. chamber

BESIK F 16.05.78-CA-303462

(09.10.79) C02c-01/06

Appts. comprises a closed waste water storage-reaction tank including $\geqslant 3$ aeration chambers separated by common vertical partitions. Air diffusers are located in the sidewall of the chambers to induce circulation. Restricted openings in the partitions permit flow of aerated liquor from chamber to chamber and flow of sludge solids from the third to the first chambers.

A submerged multichannel suspended solids separator is located in the third chamber to separate out the purified liq. and sludge. A flow rate equaliser controls the sewage flow through the chambers and the treated water flow through the separator.

It is used for small scale domestic and marine sanitation systems. Chemicals are stored and proportioned in accordance with the unsteady and batchwise flow of the incoming raw sewage. Suspended solids are separated inside the reactor thus eliminating a separate clarifier. The chemicals require annula replenishment and excess sludge is withdrawn once or twice per year. The appts. is reliable and can operate unattended. It is not affected by pitching and rolling. 16.5.78 as 303462 (18pp1044)

GUBE/ ★ D15 77373B/43 ★DL-137-09

Removal of nitrate(s) nitrite(s) and organic cpds. from waste water by activated sludge treatment with added ammonia or urea

GUBERNATOROVA V A 05.06.78-DL-205795

E36 (15.08.79) C02c-01/06 C02c-05/10

Waste water purificn. to remove nitrates and/or nitrites and organic cpds. is carried out by activated sludge treatment in the presence of added NH_4^+ ions and/or urea at a dissolved O_2 concn. of 0.1-4.0 mg/l.

The treatment can be effected at pH4-12. The amt. of NH_4^+ and/or urea added is pref. 10-1000 mg/l. A biogenic P cpd. can also be added, pref. superphosphate or Na_3PO in an amt. of $\leqslant$ 200 mg/l.

High purificn. levels can be achieved over a wide pH range (e.g. 95-98% redn. in BOD, 99% NO_3^- removal and 98-100% NH_3 removal). 5.6.78 as 205795(14pp367)

GART/ ★ D15 77404B/43 ★DL-137-18

Separator for fluids from animal and human sewage - has double vessel using capillary action to extract fluid

GARTNER F 16.06.78-DL-206035

(22.08.79) B01d-43 C02c-01/26

A separating system requiring very little energy is used for partially abstracting the fluid phase from animal and human sewage, activated sludge, etc., and employs the familiar capillary effect. The plant consists of a conical funnel, a lifting worm, a tangential inlet for the suspensio and a container encloding the funnel, for collecting the fluid phase. The inner, upper, edge zone of the funnel is layered with capillary material which extends as a collar beyond the brim of the funnel. The layering is covered wit a mantle in the form of a truncated cone.

A cylindrical container for collecting the fluid phase encloses the funnel, in which there is, along its mantle, a conveyor worm for extracting the denser phase, and this includes a clearer for cloating matter. The increase the throughput of the plant, a vacuum line is connected to the container. At the funnel outlet, the end of the worm pivots as the upper section brushes the entire surface of the funnel.

To remove the fluid phaseform sewage in the most economical manner, so that, with the minimal expenditure of energy an effluent can be produced which can be put into the public drains. The plant is applicable where large amounts of dung are produced without the possibility of its use in agriculture, whilst legal requirements regarding enviromental pollution are observed. The installation dispenses with a high mechanical outley and the elimination of band pressure and filters eliminates breakdowns. 16.6.78 as 206035(8pp1045)

WASS- ★ D15 77414B/43 ★DL-137-219

Aerator for sewage sludge container - has worm in tube with conical upper end circulating fluid and air

VEB WASSERVERSORG A 16.06.78-DL-206040

(22.08.79) C02b-01/28 C02b-09 C02c-01/10

A vertical tube enclosing a worm shaft from which the worm projects below, and which has a funnel at its upper end, is supported in the centre of a tank. The upper edge of the funnel is at or is slightly below the level of the liquid, such as sewage or sludge, in the tank, When the driving motor rotates the worm, liquid and air are drawn into the top of the funnel and are expelled from below, so that aeration takes place.

Used to introduce the necessary amount of oxygen into the sewage with the minimal expense. At the same time, foam is destroyed without ancillary equipment being necessary. 16.6.78 as 206040(8pp1045)

FLEC/ D15 27094R/16 =DS 1949-640

Automatic piston valve for an ion exchange water- - softening plant

FLECKENSTEIN A J (FLE /) 01.10.68-US-764178

*Q66 (18.10.79) *DT1949-640 C02b-01/40 F16k-31 04*

In the plunger housing bore of a motor operated valve for a water purifier, four equally spaced annular grooves form the flow channels joining connectors for the outlet, e inlet, the tank feed and the drain; the outlet being be-een the inlet and the tank feed which connects to the sof-ener via a tube.

The piston has an axial flow channel extending its full ength, and has sealing ribs spaced out so as to form grooves between them. The distance between the middle rib nd the bottom rib is greater than the distance between djacent sealing rings and greater than the distance between the centre lines of adjacent flow grooves. It is smaller than the distance between three adjacent sealing rings. The groove between the middle rib and the top rib is somewhat larger than the axial width of a sealing ring.

By reducing the axial flow passages from five to four, much smaller valve with a shorter piston stroke is possible, and a particular advantage is that the valve can thus be operated continuously in a programme.

A timer acts through a motor to turn the piston disc periodically so that the piston reciprocates. 1.10.69 as 949640 (17pp1045)

VEKE- D15 09879U/08 =DS 2137-453
Sewage sludge treatment plant - using continuous heating for drying and with automatic deodorizing
VER KESSELWERKE AG (VER -) 27.07.71-DT-137453
*(18.10.79) *DT2137-453 C02c-03*

During the thermal conditioning under increased pressure of sewage sludge for dewatering, waste gases generated in the reactor vessel are passed through sludge which has not yet been conditioned, and cooled. The process makes it possible to use the heat contained in the waste gases, whilst at the same time, the steam content can be reduced to such an extent that the exhaust gases can be put through a burner for deodourising without cooling water being necessary. 27.7.71 as 137453 (6pp1045)

CULL- D15 65131X/35 =DS 2504-818
Membrane unit for reverse osmosis water purification appts. - with short feed water channels to prevent pressure drop and increase efficiency
CULLIGAN INT CO 05.02.75-DT-504818
*A88 J01 (18.10.79) *DT2504-818 B01d-13*

Membrane for reversal osmosis, made by winding, comprises a tubular core for discharge of permeated material, about which an arrangement of layers is wound, consisting of a 1st membrane, a supporting ply conductive for the permeated material, a 2nd membrane, and a supporting ply conveying the feed water.

At least 1 radial duct for the permeated material passes through all plies in a zone of adhesive bonding. This duct opens out into the tubular core and is sealed at the opposite side. Hollow spaces in the feed water-conveying ply are filled with an adhesive in the adhesive-bonding zone. The membranes are firmly glued to the feed water-conveying ply, in this zone. The latter ply is a polyethylene or polypropylene net. The supporting plies are of pressure-resistant, spun, polyester material. 5.2.75 as 504818 (5pp267)

SNAM D15 92386X/50 =DS 2625-358
Desalination of sea water by evapn. - with preheater in tube inside brine tank of each stage to reduce dimensions
SNAMPROGETTI SPA 06.06.75-IT-024079
*(18.10.79) *BE-842-201 C02b-01/06*

Instead of two film vapourisers in each cylindrical section of a vertical, multi-effect, desalination column, there is only one. This has a pipe plate which is circular in cross-section and instead of two containers there is only one of these also. The plant for carrying out the process has heat exchangers, separating containers, feed lines for the sea water and primary steam, drains for brine and pure water, and connections to vacuum. The exchanger for preheating the sea water is enclosed in a pipe extending through the section. It is positioned in the container holding the salt solution, and divides this into two parts hydraulically sealed off from each other. Esp. in plants for smaller and medium output, the enclosure of the preheater in a tube has advantages. By having a single vapouriser for each section the column and esp. the brine container can be reduced in dimensions, whilst the plant is cheapened. 4.6.76 as 625358 (3pp1045)

ASAH D15 30455A/17 =DS 2740-252
Porous polyacrylonitrile membranes with compact skins - by extruding polymer soln. into coagulation bath and treating film in hot water etc., useful as battery separators and osmosis membranes
ASAHI KASEI KOGYO 08 09.76-JA-106613
*A14 J01 L03 R47 +P73 (A32 A85 D16) (18.10.79) *DT2740-252*
C08l-05/18 C08l-09/28 C08l-33/20 H01m-02/16 H01m-10/14

Dried porous membranes consist of polyacrylonitrile walls, separating largely interconnected small pores, and surface layers, pref. 0.1-20 μm thick, linked together by a carrier layer to form a single, closed polyacrylonitrile phase. The surface layers contain pores of size 0.001-0.05 μm. The carrier layer contains pores with a dia. larger than that of the pores of the surface layers. The membrane has a porosity of 20-70 vol.% and a fragility of <30, as defined in the patent.

The membrane is pref. produced by extruding a polyacrylonitrile soln. through a fishtail nozzle into a coagulating bath and immersing the wet film under condition of shrinkage and stretching (using a frame) into hot water or a mixt. of water and a non-solvent at 70-120°C. The membrane is then dried <85°C. Equations for the immersion conditions are given in the patent.

Membranes have better flexibility, folding and buckling strength as well as tensile strength than known membranes. They are esp. suitable as separators between alternating +ve and -ve plates of lead batteries. They effectively prevent the movement of Sb and Pb particles within the battery and are resistant to oxidation so that the life of the batteries is prolonged. 7.9.77 as 740252 (18pp260)

LINM D15 49277B/27 =DS 2757-742
Activated sludge treatment of waste water - with mechanical destruction of microorganisms forming bulking sludge
LINDE AG 23.12.77-DT-757742
*(18.10.79) *DT2757-742 C02c-01/06*

Waste water is purified biologically with ≥ 1 activating stage, an after clearing stage and with the sludge being recycled to the activating stage. To reduce the formation of foamed sludge the microorganisms producing the foamed sludge are mechanically destroyed, e.g. by centrifuging after the settling stage and before recycling. The microorganisms are destroyed without using additives. 23.12.77 as 757742 (4pp068)

WEIS- ★ D15 77496B/43 ★DT 2814-795
Sewage clarification system - combines aerobic and anaerobic treatment with efficient heat utilisation
GEB WEISS KG 05.04.78-DT-814795
(18.10.79) C02c-01/17 C05f-07

In a combined aerobic and anaerobic sewage treatment system, the sludge undergoes an anaerobic process in a controlled energy producer, i.e. a digestion chamber. This is followed by a bioreactor in which a controlled rotting process humifies and sanitises the sludge. The bioreactor supplies the heat required for the anaerobic treatment.

The treatment ensures an optimum energy recovery at lower operating costs and in a process free from smells. It provides a better recycling of waste into the cyclic biological process. 5.4.78 as 814795 (15pp39)

WENK/ ★ D15 77523B/43 ★DT 2815-327
Sewage aerator plant - combines surface aeration with ejector aeration system for better efficiency
WENK K 08.04.78-DT-815327
(18.10.79) B01f-03/04 B01f-05/12 C02c-01/06

A system for the aeration of liquids, esp. for the biological sewage treatment, combines two aeration principles. The naturally aerated surface water is continuously directed through slots in a tube to a revolving spray disc which atomises it. After this surface aeration, a pump passes the liq. to ejectors which mix it with air and discharge the mixt. in the basin.

The combination of the two systems results in a higher efficiency and lower power costs without complicating the necessary equipment. The gentle treatment improves the flocculation and the degree of purification. 8.4.78 as 815327 (12pp39)

ALBE/ ★ D15 77544B/43 ★DT 2815-507

Thermophilic biochemical sewage treatment - in enclosed heated packing filled tank with air or oxygen access

ALBERSMEYER W 10.04.78-DT-815507

(18.10.79) C02c-01/02

In a thermophilic biological sewage treatment the effluent is passed through a zone which is populated by microorganisms at a temp. of 37.72°C. The oxygen demand of the microorganisms is made available at a rate exceeding the oxygen saturation concn. of the water at that temp., and in the form of air, oxygen or oxygen-enriched air.

The result is a much reduced time required for retention and aeration. The functional process is not impeded by intensive froth formation. 10.4.78 as 815507 (14pp39)

GESS/ ★ D15 77579B/43 ★DT 2815-965

Ozone generator for water treatment - with partition and holes in central tube surrounded by metal-plated ceramic tube

GESSLAUER R 13.04.78-DT-815965

E36 J03 (18.10.79) C01b-13/11

Ozone generator for the microbiological treatment of water (effluent, for swimming pools or drinking water) consists of a central tube of alloy steel with a partition and perforations above and below the partition level. A glass or ceramic tube, which surrounds the central tube and is reduced in dia. at both ends to seal against the central tube carries a metal layer on its outside.

The application of an alternating voltage between the central tube and the film converts the air or oxygen, which flows through the central tube, into ozone. Generator requires a minimum of structural effort and of material. 13.4.78 as 815965 (7pp39)

SARS ★ D15 77583B/43 ★DT 2816-085

Asymmetric cellulose hydrate ultrafiltration membranes - with improved flow rate, protein retention and drying properties

SARTORIUS GMBH 13.04.78-DT-816085

A88 E36 J01 (A11) (18.10.79) B01d-31

Asymmetric dry ultra-filtration membranes contg.' hydrophobised synthetic silica, which is added to the cellulose acetate casting soln. used to prepare the membranes before hydrolysis.

The cellulose hydrate membranes are more resistant or organic solvents than those of cellulose acetate. The silica prevents loss of flow rate and protein-retaining properties during hydrolysis, and allows the membranes to be dried out for storage after impregnating with glycerol, without embrittlement or shrinkage.

The silica is a pyrogenic or pptd. type, hydrophobised by reacting the surface OH gps., e.g. with halogen alkyl silanes. Amt. present is 2-50 (20-45) esp. 30-35wt.% of the total solids. 13.4.78 as 816085 (16pp195)

DREY/ ★ D15 77587B/43 ★DT 2816-233

Compact desalination plant - with evaporation chamber arranged between cooling and heating chamber

DREYER R 14.04.78-DT-816233

(18.10.79) C02b-01/06

In a desalination plant for sea water, the evaporation chamber is arranged between the cooling chamber and the heating chamber. The two latter are connected via an air duct for recycling the cool air. The evapn. chamber is closed by a cover foil on the side towards the solar radiation.

This compact arrangement allows the plant to be mounted in a container for easy transportation. The fresh water prodn. capacity and the efficiency of the plant are improved. 14.4.78 as 816233 (12pp39)

MORT/ ★ D15 77596B/43 ★DT 2816-491

Sludge cleared from swage tank floor by towed rakes - converging to mouth of suction pump with flexible delivery hose

MORTL K 15.04.78-DT-816491

(18.10.79) B01d-21/18

Sludge clearing appts. intended esp. for removing sludge which has settled on the bottom of a clarification tank, sludge tank, pond or the like, and comprises a pair of rakes or scrapers, converging towards each other to meet at a point and pulled by a cable with the open mouth forwards; thus, as the V-shaped assembly is pulled forwards, sludge collects at the apex of the convergence; from this point it is removed through a flexible hose, more specifically in combination with a conveying screw or a suction pump; in the latter case; the flexible hose forms the delivery line fro the suction pump.

Settling tanks, sludge tanks, etc. can be easily clea ed of continually accumulating sludge without expensive heavy plant. 15.4.78 as 816491 (10pp236)

KNHS ★ D15 77650B/43 ★DT 2914-0

Ammonia and ammonium salt removal from waste water - countercurrent distn. with steam or air and carbon dioxi expulsion before alkali addn. (NL 12.10.79)

HOOGOVENS IJMUIDEN BV 10.04.78-NL-003765

C04 H09 (18.10.79) C02c-05/02

Removal of NH_3 and ammonium salts from industrial was waters, comprises passing the waste waters through >1 distn. column in countercurrent to steam or pre-heated a and admixing the waste waters with alkali in an intermediate step to convert the NH_4^+-ions to NH_3.

The novelty comprises charging the column(s) throug which the waste water flows before alkali addn. with fres steam or pre-heated air which is different from the stea or air in the column(s) through which the waste water flo after alkali addn. The distn. process before alkali addn. is carried out so that all dissolved carbonic acid is expel ed as CO_2 from waste water.

The process is used esp. for treating waste waters from a coking plant. NH_3 can be recovered and converte to $(NH_4)_2SO_4$ used as fertiliser. Scale formation is preve ted and alkali quantity required is reduced. CO_2 removal allows the use of $Ca(OH)_2$ as alkali without risk of formin $CaCO_3$. 6.4.79 as 914004 (12pp200)

NEVE- ★ D15 77697B/43 ★FR 2414-36

Mixing two liquids esp. recycling sludge in waste water treatment using simple immersed rotor to replace conventional pump circuit

NEVEUX SOC EXPLOIT 11.01.78-FR-000857

(14.09.79) B01f-03/08 B01f-05/12 C02c-01

Appts. for mixing a liq. from a first chamber with anothe liq. in a second chamber is described. In the second cha mber, a horizontal rotor at a level below that of the liq. surface pumps upwards and outwards forming a cavity in the surface of the liq. above, and extending down to the rotor. Liq. from the first chamber is piped, pref. by gr vity flow, into the cavity above the rotor. Delivery of li from the first chamber is pref. via a horizontal pipe whic discharges into a funnel located coaxially within the cavit in the liq. surface. The delivery pipe is pref. adjustable to be inclined to the horizontal.

Used for mixing two liquids from separate containers or compartments, partic. in the treatment of waste water e.g. sludge recycling. Appts. is capable of rapidly producing an homogeneous mixt. Adapatable for recycling as required. Tilting delivery pipe facilitates adjustment of flow rate. 11.1.78 as 000857 (9pp448)

RHON ★ D15 77708B/43 ★FR 2414-481

Treating aq. effluents contg. aldehyde(s) by chlorination - to reduce chemical oxygen demand esp. of oxychlorination effluent

RHONE-POULENC INDUSTRIES 13.01.78-FR-000877

E36 (14.09.79) C02c-05/02 C07c-17/15

Treatment of the effluent comprising $\leqslant$6C aliphatic aldehyde cpds. and their halogenated derivatives, $\leqslant$4C chlor inated hydrocarbons and/or carboxylic acids and their sal in which the pH of the effluent is raised to 9-12 by addn. o alkaline soln. at 45-75°C, comprises further adjusting the pH to 0.5-6 and then incorporating free adhesive or a subs tance capable of releasing chlorine.

The process is partic. applied to effluent from the mf of 1,2-dichloroethane, by oxychlorinated of ethylene. The known alkali treatment to decompose the chloral and other cpds. results in an aq. effluent of high COD. The above i -provement is simple, economic and enables a reduction o the COD-level by 50-80% compared to without the chlorine treatment. 13.1.78 as 000877 (10pp517)

HYCO- ★ D15 77707B/43 ★FR 2414-48

Tap water continuously purified for use in surgical operations - by filtration demineralisation and UV sterilisation

HYCO & AULAS ETAB 12.01.78-FR-001298

(14.09.79) C02b-01

In a water treatment plant for the prodn. of extremely pu ter from mains tap water, the water is piped in turn ough a pressure reducing valve, a solenoid valve, a e filter to eliminate suspended particles, a demineral- ng cartridge contg. ion exchange resins, a sterilising it and a flexible tube fitted with a discharge nozzle.

The sterilising unit pref. comprises a tubular cham- r fitted with a generator of ulta-violet radiation. Open- g of the solenoid valve is pref. delayed until the UV gen- ator has had time to warm up.

Water leaving the demineraliser is pref. passed throu- an ohmmeter which checks the degree of demineralisa- on. An elapsed hours meter pref. shares a common on- f switch with the treatment plant. Each principal electri- al component pref. has a corresp. warning light. The eatment plant is pref. mobile on a wheeled trolley. . 1. 78 as 001298 (10pp448)

CHM/ D15 58085B/32 #GB 1554-464
odular aerator and separator for sewage plant - with grease trap nd using upward sewage flow
SCHMID L A 04.06.76-CA-254082 (10.06.76-GB-024007)
*(24.10.79) *CA1058-776 C02c-01/18*

ewage treatment appts. has a bottom wall to retain parti- ulate materials and a multiple channel particle separator cated above the wall. The sewage inlet is located close the bottom of the upright chamber and fluid flows pwards via the separator.

Aeration means are located outside the chamber but lose to the sewage inlet correction. The air gives an pward hydraulic suction action while increasing the tur- ulence and aeration of the sludge. An outlet close to the op of the chamber permits the recovery of a clarified reated fluid.

The design is esp. suitable for small modular treat- nent units which can operate for extended periods with he min. attention. 10. 6. 76. as 024007 (8pp397)

MCY D15 53987Y/30 =GB 1554-681
erric sulphate recovery from iron mud - produced from waste iron-ontg. sulphuric acid
AMERICAN CYANAMID CO 08.04.76-US-675094
*E31 M12 (M24) (24.10.79) *US4036-941 C01g-49/14*

Recovery of Fe from iron mud contg. a mixt. of gypsum and $Fe(OH)_3$ comprises contacting the mixt. with H_2SO_4 of concn. 93-98 wt. % for 1-12 hours, cooling the reaction mixt. to 25-60°C, removing the undissolved material and recovering the Fe as a 25-50 wt. %.

Pref. the iron mud is produced by neutralisation, in the presence of air, of an Fe-contg. sulphuric acid waste liquor with a basic Ca salt. The waste liquors are produced in the pickling of steel and in the prodn. of TiO_2 from ferrotitaniferous ores. 28. 2. 77. as 008425 (2pp924)

GILL/ ★ D15 77777B/43 ★GB 2018-703
Submarine container for bulk material - is towed by surface tug and provided with ballast tanks
GILLESPIE A V 13.04.78-EI-000723
H03 Q24 (24.10.79) B63b-25/08 B63b-43/06 B63g-08

The container is suitable for transporting oil or collecting water from icebergs etc. and is controlled remotely from a surface tug. Ballast tanks in the container are controlled from the tug by pneumatic valves.

When the buoyancy is to be reduced, sea water is added to the tanks, the desired depth being maintained by static air line pressure. In an emergency a surrounding layer of inert gas or foam surrounds the container. 12. 4. 79. as 012936 (43pp1133)

WAKP ★ D15 77796B/43 ★GB 2018-784
Polymerisation of water-soluble monomers e.g. acrylamide - using 2,2'-azo-bis-n,n'-di:methylene-isobutyl amidine as initiator
WAKO PURE CHEM IND KK 08.04.78-JA-041568
A60 E16 (A14) (24.10.79) C08f-04/04 C08f-20/54

A water-soluble polymer is prepd. by polymerising a water-soluble monomer using as initiator 2,2'-azo- bis-(N,N'-dimethylene-isobutyl-amidine) (I) or its acid addn. salt and opt. another azo cpd.

The polymer may be useful as a flocculating or fibre treating agent, paper strength booster or adhesive. The polymer has a high mol.wt., a low amt. of branching and good water solubility. Problems encountered with redox initiators, e.g. crosslinking and induced reducing agent decomposition, are avoided. 6.4.79. as012230 (7pp558)

ASAG ★ D15 77797B/43 ★GB 2018-786
Macromolecular adsorbent for heavy metal ion recovery comprising a polymer having pendant gps. contg. fluorine and phosphorus
ASAHI GLASS KK 12.04.78-JA-042150
A97 K05 M25 (24.10.79) C08f-08/40

A macromolecular adsorbent is a polymer having pendant gps. of the formula $-(R^1)_p-(R^2)_q-R_f-(R^3)_r-(O)_l-P(O)X^1X^2$, where R^1 is a 1-8C divalent organic gp.; R^2 and R^3 are 1-5C divalent organic gps.; p, q, r and l are 0 or 1; Rf is a 1-10C divalent perfluoro gp.; and X^1 and X^2 are hydroxyl or a gp. or atom convertible to it.

The adsorbent is suitable for recovering heavy metal (e.g. U) ions from a dil. soln. such as sea water. It has high abrasion resistance, stable adsorbing capacity, high ion-exchange activity, highadsorbing velocity and low susceptibility to damage.

The polymer may be prepd. by polymerising a monomer having perfluoro and phosphono gps. or by a macromolecular reaction in which the perfluoro and phosphono gps. are introduced into a skeleton polymer, e.g. of the polystyrene type. The polymer pref. has a phosphono gp. content of >0.2, esp. >0.4, mequiv./g. dried H type adsorbent; and there are pref. $\geqslant 2$F atoms per phosphono gp. The average mol.wt. is generally $>20,000$. 12.4.79. aa 013123 (9pp558)

YSTG/ ★ D15 77800B/43 ★GB 2018-812
Treatment of water-wet waste materials - by pyrolysis with carbonaceous material in presence of water
YSTGAARD O M 07.11.78-GB-043412 (12.04.78-GB-014441)
J09 (24.10.79) C10j-03/06

Method of treating waste material (I) comprises adding carbonaceous material (II) to it, then pyrolysing the mixt. of (I) and (II) in the presence of H_2O.

Convenient, practical method is partic. suitable for the purification of sewage dispersions without the need to remove all associated H_2O. The method allows the energy content of (I) to be recovered (as e.g. a gas (>1700 m^3/ton) for use as a chemical raw material or as a fuel), while the remaining material is reduced to a readily disposed residue. 7.11.78. as 043412 (9pp478)

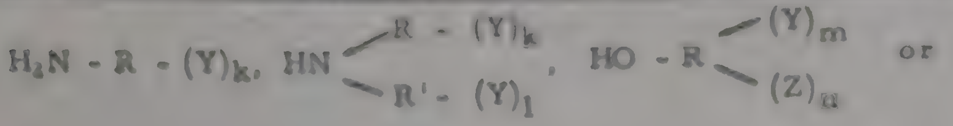
KUHN/ ★ D15 77806B/43 ★GB 2018-826
Laminated mesh electrolysis electrode - comprises a stack of screens electrically connected by welding conductive spacers or a mass of wire wool
KUHN A T 03.04.79-GB-011508 (14.04.78-GB-014758)
E36 J03 (24.10.79) C25b-11/03

The electrose is formed of a number of metallic screens of woven wire mesh which are stacked together and electrixally united one with another at intervals. It is used in industrial electrochemical processes, e.g. reducing glucose to sorbitol, xylose to xylitol, or electrolysis of brine , water or aq. alkali. It has very high surface area so as to minimise voltage at a given current density.

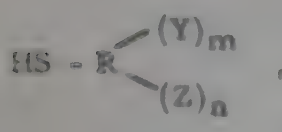
The electrode has a rigid support which may be a foraminated plate of mild steel, and the screens are of mild steel wire in plain, hollander or pref. twill weave. The screens are united by spot or tack welds. A layer of steel wire wool may be provided between the outer screens. 3.4.79. as 011508 (3pp50)

TORA ★ D15 77833B/43 ★J5 4067-573
Semipermeable membrane used e.g. in treating sea water or brine - obtd. by crosslinking modified polyether
TORAY IND INC 10.11.77-JA-134142
A88 J01 (A25) (31.05.79) B01d-13

The membrane is obtd. by cross-linking a polymer containing a modified polyether. The modified polyether is obtd. by reacting polyether having repeating units of formula $\left(CH_2 - CH(CH_2X) - O \right)_i \left(CH_2 - CH_2 - O \right)_j$ (I) with at least one kind of a compound (2) (where X is Cl, Br or I; $i + j = 1$, $0 < i \leqslant 1$, $0 \leqslant j \leqslant 8$) with a cpd. of formula



$H_2N - R - (Y)_k$, $HN\begin{matrix} \diagup R - (Y)_k \\ \diagdown R' - (Y)_l \end{matrix}$, $HO - R\begin{matrix} \diagup (Y)_m \\ \diagdown (Z)_n \end{matrix}$ or



$HS - R\begin{matrix} \diagup (Y)_m \\ \diagdown (Z)_n \end{matrix}$, (where R or R' is aliphatic, aromatic, alicyclic, or heterocyclic gp.; Y is OH, thiol; Z is amino; K is 1 or 2; l is 0, 1 or 2; m is 0, 1 or 2; n is 0, 1 or 2; m + n $\geqslant$ 1). The polyether of the unit (I) is, e.g. epihalohydrin. 10.11.77 as 134142 (11pp51).

TANA/ ★ D15 77852B/43 ★ J5 4094-755

Purifying agent for polluted water - is produced from industrial waste obtd. in the canning of fruit, e.g. oranges, apples, grapes etc.

TANAKA T 09.01.78-JA-001272

(26.07.79) B01d-21/ C02c-05/02*

The purifying agent is produced by treating the canning waste with aq. 5-20% alkali soln. to dissolve fibrous matter and carbohydrates; filtering with heat; concentrating the filtrate and neutralising it with mineral acid to give a ppte. which is then sepd. by filtration and washed with water; adding caustic alkali soln. and purified glucosamine obtd. from crab shell to give a soln., and this added as coagulant to polluted water to be purified and neutralised with acid, to form coagulated fibrous matter or carbohydrates an which organic colloidal matter contained in the polluted waters are absorbed and coppted..

This soln. i.e. coagulant, is pref. used with an adsorbent, e.g. silicate, zeolite, perlite, Al silicate, sintered volcano ash, activated charcoal, etc..

The agent is capable of further lowering BOD of sec. treated water (from activated sludge process) from 5-7 ppm to 1-2 ppm as well as removing, by copptn. org. colloidal matter. 9.1.78 as 001272 (5pp34).

NREN ★ D15 77891B/43 ★ J5 4117-378

Regenerating ion exchange resin in column - by upwardly passing regenerating liq. and pouring water over upper part of resin bed to prevent resin movement

NIPPON WATER TREATM KK 03.03.78-JA-024309

J01 (12.09.79) B01j-01/09

Method comprises flowing a regenerating liq. upward through a resin bed formed in the column. The object is to effectively regenerate the resin without disturbing or floating up the resin, and to reduce the water consumption. In the novel method, the regenerating liquid is fed into the column $\geqslant$2 times upon regeneration, while water is poured over the upper portion of the resin bed to suppress upward motion of the resin (due to upward flow of the liquid and the liquid and water are connected into a collecting pipe opened in an upper portion of the bed and drained outside. Just before passing the liquid into the bed, water is poured over it to close pores of the bed with water films. 3.3.78 as 024309 (5pp26).

KURS ★ D15 77893B/43 ★ J5 4117-380

Polyvinyl alcohol based selectively permeable membrane - modified by presence of acetal gps. and crosslinking

KURARAY KK 06.03.78-JA-025722

A88 J01 (A14) (12.09.79) B01d-13/04 C08j-05/18

PVA system selectively permeable membrane high in its mechanical property, has >30 mole % acetal content and acetal cross-linked extent of > 30 minutes in dissolution of the membrane in 65% HNO_3.

The membrane is obtd. by mixing 50 - 150 wt.% of polyalkylene glycol of 600 - 3,000 average mol.wt. with a PVA system polymer in a critical mixed rate of 0.80 - 1.00 to obtain a PVA system polymer composite, coagulating the composite in a liq. phase to obtain a coagulate cpd., and acetal-reacting the coagulated cpd. with 10 - 300 g/l of a monoaldehyde cpd. and 0.1 - 100 g/l of a dialdehyde cpd..

In an example, 9% boric acid and 95% polyethylene glycol (PEG) were mixed with 100% of PVA at 100°C to obtain an aq. soln. of 16% of PVA. The aq. soln. was coagulated in a coagulating soln. of NaOH and Na_2SO_4 to obtain a hollow fibre. The fibre was acetal-react d in a soln. of formaldehyde, H_2SO_4, and Na_2SO_4, washed with water, and dried to obtain the selectively permeable fibre membrane. 6.3.78 as 025722 (7pp51).

KURS ★ D15 77894B/43 ★ J5 4117-38

Fitting bundle of hollow fibres to appts. for purificn. of water includes inserting into open ended cylindrical body which protect fibres

KURARAY KK 13.03.78-JA-028369

A88 P34 (12.09.79) A61m-01/03 B01d-13

A bundle of hollow fibres are fitted to an appts. for the prodn. of fresh water from sea water or for the purificn. of waste water. The bundle of hollow fibres is inserted into a cylindrical body which is open at at least one end, and one end of the body in the side of the free end of the bundle is bent to the other end of the body, to obtain a hollow fibre bundle protected by the body. The protected bundle is introduced into the core of the appts. and only the body is removed from the core to fit the bundle of hollow fibres.

The hollow fibres are made of cellulose, cellulose derivatives, polyvinyl alcohol, polyacrylonitrile, polymethylmethacrylate, polyamide, or polyolefin. The outer diameter of the hollow fibre is 10 - 3,000u, and the wall thickness is 500u. 13.3.78 as 028369 (4pp51).

TELN- ★ D15 77897B/43 ★ J5 4117-38

Alkali resistant agent for removing heavy metal from waste water obtd. by addn.-condensing alkali treated coal with aldehyde presence of alkali, kneading, pelletising and heating

TELNITE KK 03.03.78-JA-024222

A91 J01 (12.09.79) B01d-15 C02c-05/02

The agent is obtd. by addition-condensing alkali treated coal or weathered coal containing humic acid with aldehydes, such as, acetoaldehyde, paraformaldehyde, or formalin, in the presence of alkali, kneading the resulting condensate, pelletising, and heating to complete the condense.

In an example, 30 pts. of 37% formalin was gradually added to 100 pts. of lignite treated with alkali while stirring in the presence of alkali at 90°C for 30 minutes to obtain an addn. condensate. The condensate was kneaded and shaped into pellets. The pellets were heated at 150°C for 1 hour, and treated with 1N HCl to obtain a H type ion exchange resin. The resin was treated with 1N Ca acetate to obtain a Ca type ion exchange resin used as a salt type heavy metal catching agent. 3.3.78 as 024222 (4pp51).

MITK ★ D15 77905B/43 ★ J5 4117-40

Recovering ammonia from waste water contg. organic nitrogen - wet-type oxidn. process, using ammonia sepg. tower

MITSUI TOATSU CHEM INC 06.03.78-JA-024564

E35 (12.09.79) C01b-01/10

In the treatment of waste water contg. organic N in a wet type oxidising process to obtain treated water, and recovering ammonia from the treated water, the improvement comprises sepg. a gas from the treated water at 70 - 150°C at pH < 8.0, adjusting the resulting water sepd. from the gas with strong alkali to pH > 8.0 and introduci the adjusted water into an ammonia sepg. tower to recover ammonia. The organic N is an organic cpd. contg. cyano, amino, imino, amido, aminido, or hydrazido gp.

In an example, waste water contg. 3.0 wt.% $(NH_4)_2SO_4$ was contacted with Cu at 250°Cfor 1.8 hrs., and cooled down to 100°C. A gas was sepd. from the cooled water under a pressure of 64kg/cm^2 (G) to obtain sepd. water contg. 1.47 wt.% NH_3. The sepd. water was adjusted wit NaOH to pH 9.5 and distilled in a distilling tower to recover ammonia from the top of the tower. Recovery rate of ammonia was 88.0%. 6.3.78 as 024564 (3pp51).

DIAP ★ D15 B/43 ★ J5 4117-59

chloromethylation of polymer for producing anion exchange resin

DIA-PROSIM 01.02.78-FR-002726

A91 (12.09.79)

31.1.79 as 010266.

FJIE ★ D15 78000B/43 ★J5 4118-292

Measuring biological nitrification rate - by measuring difference between amt. of oxygen consumed and amt. of carbon di:oxide produced

FUJI ELECTRIC CO LTD 06.03.78-JA-025113

J04 R16 (13.09.79) C02c-01/02 G01n-33/18

Process comprises measuring the difference between the amount of O_2 consumed (X) and the amt. of CO_2 produced (Y) in an exposing tank from the values measured, (a) the flow of gas poured for air-exposing, (b) the concns. of O_2 and CO_2 in the gas poured, (c) the flow of the gas discharged from the surface of the air-exposing tank, (d) the concn. of O_2 and CO_2 in the discharged gas, and the difference between (e) the amount of the CO_2 carried in the system by dissolving in the influent and (f) that of the CO_2 discharged from the system along with the treated water.

The speed of nitrification can be stably measured on line. 6.3.78 as 025113 (7pp90).

HITA ★ D15 78046B/43 ★J5 4118-390

Ozone-removing aq. soln. for treatment of gas etc. - contains sulphite e.g. alkali metal or ammonium sulphite and carbohydrate e.g. glucose

HITACHI KK 08.03.78-JA-025397

E36 (13.09.79) B01d-02 B01d-53/34 C01b-13

An ozone(I)-decomposing aq. soln. (II) contains sulphite (III) and carbohydrate (IV). (III) is alkali metal sulphite e.g. Na sulphite or ammonium sulphite. (IV) is glucose, fructose, sucrose, lactose, maltose, starch or dextrin. pH of (I) should be adjusted to 8-10. The concns. of (III) and (IV) should be 0.05-20 wt.% on the wt. of (II) and 1/10 - a few times the quantity of (III), respectively. (I)-contg. gas is contacted with (II) in spray tower, packed tower, Venturi scrubber, tray-tower, etc..

(I) is used for deodorisation of malodorous waste water and treatment of industrial waters. However (I) itself has stimulating odour and toxicity to human and animals. The soln. does not react with air and is effectively used for removal of (I) from a gas. 8.3.78 as 025397 (5pp42).

AGEN ★ D15 78113B/43 ★J5 4118-652

Solidification of sludge from river water treatment - involves addn. of alumina-bearing compsn. e.g. ceramic waste, gypsum and wool sludge

AGENCY OF IND SCI TECH 07.03.78-JA-025706

F01 L02 (14.09.79) B01j-01 C02c-03

In solidification of river water sludge, i.e. dewatered cake of ppte from treatment of river water etc. in filtration plant etc., the improvement comprises adding alumina-bearing compsn. having alumina content of 20 - 30%, e.g. wastes discharged from ceramics industry (compsn.: 2.51wt.% ignition loss, 73.10 wt.% SiO_2, 22.88 wt.% Al_2O_3, 0.25 wt.% Fe_2O_3, 0.06 wt.% TiO_2, 0.10 wt.% CaO.MgO and 1.10 wt.% $K_2O \cdot Na_2O$), gypsum, e.g. $CaSO_4 \cdot 2H_2O$, and wool sludge from washing and dyeing treatment of wool, i.e. a mud-like compsn. contg. soil and earth adhered to crude wool, excrements of sheep, dyeing-stuff, soap, soda component, lime, polymer coagulant and alum etc., having water content of 60% and pH of 12 (compsn.: 29.9 wt.% ignition loss, 56.0 wt.% CaO, 0.7 wt.% MgO, 0.9 wt.% Fe_2O_3, 1.0 wt.% Al_2O_3 and 11.5 wt.% SiO_2 and TiO_2), so that a hydrated solidified prod. exhibiting high compression strength is obtd. even in the absence of CaO or $Ca(OH)_2$.

The solidified prod. is useful in land reclamation, improving weak ground etc.. 7.3.78 as 025706 (5pp34).

TKAG ★ D15 78114B/43 ★J5 4118-654

Decolourisation of dye contg. waste liquor - by adding formaldehyde and urea and/or melamine to give condensed prod.

TAOKA CHEMICAL KK 06.03.78-JA-025804

A97 E24 (A21) (14.09.79) B01d-21/ C02c-05/02*

A coloured waste liquor contg. azo-, phthalocyanine-, xanthene- and azine- dyes, discharged from dyes-producing plant, is easily and effectively decolourised by adding formaldehyde, and urea and/or melamine under neutral or acidic state, followed by stirring for a few mins. to a few hrs. until decolourisation is completed. The decolourised liquor is then if necessary neutralised with $Ca(OH)_2$ or NaOH, followed by filtration and discharge, but its filtratability is very excellentdue to very small amt. of sludge resulted.

The decolourising mechanism is thought to be as follows. The dyes are put into three-dimensional lattice structure resulting from reaction between formaldehyde and urea and/or melamine; the dyes are deposited by adsorption coagulation or initial condensed formaldehyde-urea (and/or melamine) resin; or due to lake extn. effect by urea and melamine etc.. 6.3.78 as 025804 (3pp34).

SEKI ★ D15 78115B/43 ★J5 4118-656

Treatment of starch-contg. waste water - by coagulation using added polysaccharide extracted from plant seed, and opt. other coagulants

SEKISUI CHEMI IND KK 06.03.78-JA-025871

C04 (D13 D17) (14.09.79) B01d-21/ C02c-05/02*

A floated starch-containing waste water, e.g. discharged from mill, starch-producing factory, brewery and food-processing factory etc., is subjected to coagulation to remove therefrom the floated starch under high settling rate and therefore to obtain clarified water having excellent transparency by adding thereto polysaccharide collected from plant seed, e.g. guar gum, rocast bean gum, quins seed gum and tara gum etc. or collected from plant resin, e.g. arabinogalactan gum, acacia, tragacanth gum and calaya gum etc. or its deriv., e.g. carboxymethylated deriv. if necessary in combination with alum, e.g. potassium alum and ammonium alum etc. and assisting coagulant, e.g. fossilised shell, $Ca(OH)_2$, $CaCl_2$ etc. under pH of 7 - 8.

The coagulated starch-containing matter separated is available for use as fodder and fertiliser etc. due to its high starch content and excellent stability against domestic animals and plants. 6.3.78 as 025871 (5pp34).

KINZ- ★ D15 78174B/43 ★J5 4119-314

Titanic acid adsorbent for recovering uranium in sea water - prepd. using stainless steel appts. and in presence of added iron ions

KINZOKU KOGYO JIGYO 09.03.78-JA-026026

E31 K05 M25 (17.09.79) B01d-15 C22b-60/02

Iron ions are added to an aq. soln. of titanium sulphate or titanium tetrachloride in an amt. of 5 - 30 mol.% of the titanium. Then, the aq. soln. is heated and hydrolysed in a stainless steel container, thereby, producing a titanic acid adsorbent.

The quantity of uranium adsorbed by the titanic acid adsorbent is much higher than that adsorbed by conventional titanic adsorbent produced in a container made of glass.

In an example, 1.2 l titanium sulphate (Ti: 82 g/l, H_2SO_4: 500 g/l) is put in a stainless steel(SUS 40) container. The titanium sulphate is stirred by a stirrer made of the same stainless steel for 1 hour. 0.877 l of aq. ammonia (252 g/l) is added, then the soln. is boiled for 30 minutes. The solution is cooled in the atmosphere and solid substance obtd. is washed with water, then dried at 70°C to give the titanic adsorbent. 9.3.78 as 026026 (3pp7).

TOKU ★ D15 78209B/43 ★J5 4119-374

Desalination using multistage electric dialysers - which contain cationic and anionic exchange membranes

TOKUYAMA SODA KK 10.03.78-JA-026501

(17.09.79) B01d-13/02 C02b-01/82

Water contg. electrolytes, e.g. sea water or boiler water, is passed into the desalinating room and concentrating room of a first electric dialyser provided with a cationic exchange membrane and an anionic exchange membrane, then the desalinated water from the desalinating room of the first stage is passed into the concentrating room and desalinating room of a second stage dialyser with the same ion exchange membranes, then the desalinated water from the desalinating room of the second stage is passed into the concentrating room and desalinating room of a third stage, while the conc. water from the concentrating room of the second stage is recycled to the concentrating room of the first stage, and then the desalinated water from the desalinating room of the third stage is passed into both rooms of an n-stage dialyser, while the conc. water from the concentrating room of the third room is likewise recycled to the concentrating room of the second stage, in which the same operation is repeated and lastly desalinated water of a predetermined quality is obtd. from the n-stage.

Method is capable of rapidly and effectively desalinating various concentrations of saline water without lowering the current efficiency and also of giving highly desalinated water. 10.3.78 as 026501 (5pp17).

KINZ- ★ D15 78230B/43 ★J5 4119-399

Recovering desorbent from desorbed-uranium contg. liquor - the desorbent being e.g. sodium (bi)carbonate, bi subjecting to electrodialysis

KINZOKU KOGYO JIGYO 09.03.78-JA-026025

E31 K05 M25 (17.09.79) C01g-43 C21b-01

Desorbing agent is recovered from desorbed U-contg. liquor resulting from passing sea-water through U adsorbant, e.g. titanate-bearing adsorbent etc. and subsequently desorbing the adsorbed uranium with aq. soln. the desorbent.

The improvement comprises using as the desorbent aq. soln. of alkali metal carbonate, e.g. Na_2CO_3 or $NaHCO_3$ etc., and subjecting the desorbed U-contg. liquor to electrodialysis treatment using combination of anion exchange membrane capable of passing only monovalent ion and cation exchange membrane, so that the alkali metal carbonate is only taken-out to the outside of the system.

It is possible to use non-volatile alkali metal carbonate as the desorbent for uranium, thereby environmental contamination of sea, is prevented. 9.3.78 as 026025 (4pp34).

NIPE- ★ D15 78368B/43 ★J5 4119-758

Improving dewatering properties of organic sludge - by treating with hydrogen peroxide and ferrous sulphate, neutralising with alkali and filtering

NIPPON PEROXIDE KK 10.03.78-JA-026605

(17.09.79) C02c-03

Organic sludge from the treatment of waste water is improved in dewatering property without any corrosion of dewatering appts. by (a) treating H_2O_2 in amt. 1,000 - 2,000 ppm, and $FeSO_4$, in amt. of 10 - 20% on solids content of the sludge; (b) neutralising with alkali, e.g. NaOH or Na_2CO_3, to a pH of 5.0 - 6.5; and (c) filtering

A high filtration rate is achieved without any corrosion of the appts. or outflow of Fe ions, and the cake obtd. is neutral, and thus suitable for use in land reclamation and agriculture. 10.3.78 as 026605 (2pp34).

AGEN ★ D15 78369B/43 ★J5 4119-760

PVA and/or starch removal from effluent - by treating it with calcium aluminate and calcia

AGENCY OF IND SCI TECH (HOSO SUMI-) 08.03.78-JA-026297

A35 F06 (A14 F09) (17.09.79) C02b-01/14 C02c-05/02

PVA and/or starch are removed by adsorption, from effluent e.g. desizing effluent from fibre industry, surface sizing effluent from paper industry, emulsifier-contg. effluent from suspension polymerisation and effluent from prodn. of domestic washing-up liq., etc. by contacting it with an agent consisting of calcium aluminate (e.g. $3CaO.Al_2O_3$, $5CaO.3Al_2O_3$, $CaO.Al_2O_3$ and/or $3CaO.Al_2O_3$) and CaO, the wt. ratio of CaO/Al_2O_3 being 1/9 to 9/1, pref. 7/3 to 8/2.

This agent is prepd. e.g. by uniformly mixing a Ca cpd. e.g. $Ca(OH)_2$, $CaCO_3$, $CaCl_2$, etc. and an Al cpd. e.g. $Al(OH)_3$, $AlCl_3$, $Al(NO_3)_3$, etc., and calcining them at 1,100 - 1,600, pref. 1,200 - 1,400°C for 0.5-1 hr. Excess Ca cpd. may be added to the mixt. prior to calcination to obtain a mixture of CaO and calcium aluminate, or CaO may be added to pre-formed calcium aluminate to obtain the CaO-calcium aluminate mixt.. 8.3.78 as 026297 (4pp34).

MITS ★ D15 B/43 ★J5 4119-773

Treatment of swine faeces

MITSUBISHI SHOJI KK (NISS) 08.03.78-US-884519

(17.09.79)

2,6,78 as 065902.

HITK ★ D15 78397B/43 ★J5 4120-

Recovering iron components from acid pickling waste - by treat with modified waste sodium hydroxide contg. silicic acid resulti from removing sand from castings

HITACHI METAL KK 13.03.78-JA-028498

E37 M12 (M22) (18.09.79) C01g-49/08 C02c-05/02 C21b-15

The waste NaOH including silicic acid content is dissolved in water for precipitating and removing the sand particles. It is added with $Ca(OH)_2$ or CaO to give $Ca:SiO_2$ mol ratio >3 while the aq. soln. is heated to above 60°C to precipitate and separate the silicic acid content

The decanted material is ultrafiltered to separate colloid and the filtrate is added to the waste acid to convert Fe^{2+} to Fe hydroxide. This is oxidised to give Fe^{2+} Fe^{3+} = 1 : 2 and Fe content in the waste acid is precipitated or flocculenced as Fe_3O_4.

Waste NaOH and waste acid can be treated simultaneously. 13.3.78 as 028498 (4pp53).

HITK ★ D15 78423B/43 ★J5 4120-2

Neutralisation of pickling waste acid - using waste mud produc when caustic soda is regenerated by removing silicate component

HITACHI METAL KK 13.03.78-JA-028497

E37 M12 (M22) (18.09.79) C02c-05/02

Waste caustic soda contg. silicate component is firstly dissolved in water to sedimentate and remove its sand particle component, then $Ca(OH)_2$ or CaO is added to the soln. so that the molar ratio of Ca/SiO_2 becomes $\geqslant 3$. Then the resulting aq. soln. is heated at $\geqslant 60$°C and the silicate component is pptd. and sepd. as $CaO.SiO_2$, whic is then mixed with the pickling waste acid.

The pickling waste acid can be neutralised by using a waste mud which is produced when caustic soda is regenerated by removing silicate component from so called "waste caustic soda" (which is obtained from the proces for removing the sand from cast products). The process prevents environmental pollution. 13.3.78 as 028497 (3pp55).

HITF ★ D15 78424B/43 ★J5 4120-2

Treatment of garbage-contg. dirty water - by sepg. into liq. a solid, adding e.g. calcium hydroxide to the liq., drying adding the solid and burning

HITACHI SHIPBLD ENGG KK 13.03.78-JA-028856

(18.09.79) B01j-01 C02c-03

The garbage-contg. dirty water is separated into liq. and solid, and a material of low solubility with low speci ic gravity (such as calcium hydroxide, calcium carbonate, magnesium carbonate, etc.) is added to the separated dirty water then the resulted mixture is condensed or dried, then the obtained condensed residue or dried cake is burned with separated solid garbage

The garbage contg. dirty water cannot be directly condensed in order to be burned, because inorganic and organic substances are dissolved in the dirty water and the organic substances (esp.) are pyrolysed or polymerised to produce sticky tar-like products, which adhere to the burning appts. when they are condensed. In this process, the tar-like products produced by the condensation of the dirty water can be effectively decomposed. 13.3.78 as 028856 (2pp55).

SHIG/ ★ D15 78426B/43 ★J5 4120-2

Rotary adsorption drum - comprises adsorbent-filled, rotating ne frames, wings and obstacles and is dipped in fluid

SHIGETOMI Y 11.03.78-JA-027891

E37 J01 K05 (18.09.79) B01d-15/02 C02c-05/02

The appts. is used for removing heavy metal ions, e.g. P, etc., from factory waste water, town sewage etc., o capturing U from sea water. By using the flow of waste water or sea water, the adsorbant can be stirred and goo contact between adsorbent and water can be maintained. Adsorption efficiency can be improved. 11.3.78 as 027891 (4pp55).

INOZ ★ D15 78446B/43 ★J7 9029-992

Electrolysis appts. for waste liquor treatment - in which liquor is passed between two electrodes, one of which is movable, for hydroxide formation

INOUE JAPAX RES INC 00.00.74-JA-008530 (24.01.72-JA-008921)

(27.09.79) C02b-01/82 C02c-05/12

Appts. for waste liquor treatment is such that the liquor is electrolysed into a hydroxide by forcibly passing the liquor through a gap defined by a pair of electrodes, one of which is made movable depending on the pressure of flowing liquor to maintain the gap within 10 mm. 24.1.72 as 8530/74 Div.ex. 8921/72 C02c-5/12; C02b-1/82 (27.9.79) INOUE JAPAX RES. INST. (4pp26) (J50082853)

INOZ ★ D15 78447B/43 ★J7 9029-993

Waste water treatment by aeration in electrolysis zone - using electrode rotating at a specified speed

INOUE JAPAX RES INC 00.00.74-JA-008532 (24.01.72-JA-008921)

(27.09.79) C02b-01/82 C02c-05/12

In appts. for treating waste water by blowing a gas into it while it passes through a gap of ⩽10 mm., defined by a pair of electrodes for electrolysing the water, one of the electrodes rotates at a relative speed of ⩾3 m./sec. 24.1.72 as 8532/74 Div.ex. 8921/72 C02c5-/12; C02b-1/82. (27.9.79) INOUE JAPAX RES. INST. (5pp26) (J50082854)

HANR- D15 34522W/21 #J7 9029-994

Pure water and solids recovery from effluents - in a multi-stage operation including vapourisation and oil fluidising of sludge

HANOVER RES CORP (HANO-) 15.10.73-US-406632 (22.07.71-US-165070)

*C03 (C04 D13) (27.09.79) *DT2448-831 B01d-03 C02b-05*

Water is recovered from an aq. waste by heating the liq. in an evaporator. A volatile oil is added to the liquid prior to feeding to the evaporator and is subsequently recovered by condensing the vapour from the evaporator and separating the oil and water. Concentrated waste from the evaporator is dehydrated in a further evaporator pref. after the addition of a non-volatile oil and further volatile oil. Non-volatile oil is recovered from sludge discharged from this second evaporator and the remaining solid material used to power a boiler heating the evaporators.

The appts. recovers water from coal slimes, sewage sludge, slaughter house effluent, black liquor from paper mfr. and similar aq. wastes. The addition of oil reduces scaling of the evaporators. 10.7.72 as 068955 (clg. 22.7.71-US-165070) B01d-3/00; C02b-5/00 (27.9.79) HANOVER RES. CORP. (9pp) (J48021666)

CIBA D15 62419V/35 =J7 9029-998

Water treatment agents - to prevent furring and corrosion in boilers etc., using hydrolysed maleic acid copolymers

CIBA GEIGY AG 14.02.73-GB-007181

*A97 (A14) (27.09.79) *NL7401-903 C02b-05/06 C23f-14/02*

Water treatment agents to prevent deposn. of Ca and Mg salts and to minimise corrosion and furring of boilers, steam pipes, evaporators, etc. comprise a hydrolysed copolymer of maleic anhydride with a monoethylenically unsatd. monomer (I) in which the mol. ratio maleic anhydride - (I) = 2.5:1 to 100 : 1, esp. 2.5 : 1 to 7 : 1, and the mol. wt. of the copolymer is ⩾1000.

The copolymers are made by soln. polymerisation in a reactive org. solvent which also acts as polymerisation stopper, such as toluene, CCl_4, acetone, etc. Suitable comonomers are e.g. (meth)acrylic acid (esters), vinyl acetate, acrylonitrile, etc. The copolymers can be hydrolysed with water, alkaline reagents or mineral acids. The prods. are added at 0.1-100 ppm. to the water. 13.2.74 as 018098 (clg.14.2.73-GB-007181) C02b-5/06; C23f-14/02 (27.9.79) CIBA-GEIGY A G (11pp) (J50035065)

DOWC D15 31979T/20 #J7 9030-020

Alkali metal and ammonium polyacrylate - by polymerisation in presence of ammonium hydroxide

DOW CHEMICAL CO 14.01.69-US-791193 (25.08.71-JA-064506)

*A14 (27.09.79) *US3658-771 +C08f-02/10 C08f-20/06*

The polyacrylate is formed by (a) forming an aqueous solution of 10-40% by wt. dissolved alkali metal or ammonium acrylate or methacrylate with 0.1-15% of ammonium hydroxide; (b) purging the monomer solution of inhibitory oxygen; and (c) polymerising at 0-100°C. in the presence of a catalyst to produce a polyelectrolyte, which may then by separated from the polymerisate.

It has high molecular wt. and good flocculation utility and has a viscosity of at least 10 cP. 25.8.71 as 064506 C08f-20/06; 2/10 (27.9.79) DOW CHEMICAL CO. (6pp) (J48031281)

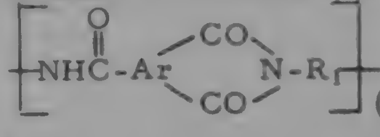
TEIJ D15 09439U/07 =J7 9030-034

Polyamidoimide precursor - by reacting aromatic tricarboxylic acid, polyamine or polyisocyanate and diaryl carbonate

TEIJIN KK 12.08.71-JA-061288

*A23 +R41 (27.09.79) *BE-787-482 +C08g-18/34 C09d-03/72 H01b-03/30*

Polyamidoimide precurosr contains ⩾50 mole % amidoimide units of formula (I), ⩾30 mole ; of the terminal gps.


(I)

being aryl esters of a carboxylic acid, and has an inherent viscosity of 0.05-0.4, calculated from the value measured at 30°C on a soln. of the polymer in N-methylpyrrolidone hav-ing a concn. of 0.5g polymer per 100 ml. soln. (where Ar is an aromatic gp.; and R_1 is an organic gp. having a valency of ⩾2). The precursor can be cured with polyfunctional cpds.

Esp. useful for forming insulating coatings on electrically conducting metal wires. The polyamidoimides have a high resistance to hydrolysis, thermal shock and abrasion and a good thermal stability. 12.8.71 as 061288 C08g-18 18/34, C09d-3/72; H01b-3/30 (27.9.79) TEIJIN LTD (7pp) (J4 8026897)

UBEI D15 04705Y/03 =J7 9030-671

Activated carbon regeneration for effluent purificn. - in which antioxidant is adsorbed onto its surface by washing with organic solvent

UBE INDUSTRIES KK 28.05.75-JA-063045

*J01 (02.10.79) *J51139-593 +B01d-15/06 C02c-05/02*

Activated carbon used for the treatment of effluent contg. organic substances is regenerated as follows. This is carried out by washing with organic solvent. Antioxidants e.g. 2,6-di-tert-butyl-4-methylphenol, 4,4'-thiobis-(6-tert-butyl-30 methylphenol etc. are thus absorbed onto the activated carbon before use.

The regeneration rate is high. 28.5.75 as 063045 B01d-15/06; C02c-5/02 (2.10.79) UBE INDUSTRIES KK (3pp) (J51139593)

UBEI D15 04706Y/03 =J7 9030-672

Activated carbon regeneration for effluent purificn. - by reducing and then washing with organic solvent

UBE INDUSTRIES KK 28.05.75-JA-063046

*J01 (02.10.79) *J51139-594 +B01d-15/06 C02c-05/02*

Activated carbon used for the treatment of effluent contg. organic substances is regenerated as follows. Firstly, it is reduced with e.g. H_2, HI or SH_2, lower oxides, e.g. CO or SO_2, salts of lower oxyacids, sulphur cpds. e.g. as Na_2S or polysodium sulphide, metals of high ionisation potential e.g. Mg or Ca, salts of metals or low valency e.g. Fe (II) or Sn (II) or organic cpds. as aldehyde, saccharide or formic acid. The reduced prod. is then washed with organic solvent. The regeneration rate is high. 28.5.75 as 063046 B01d-15/06; C02c-5/02 (2.10.79) UBE INDUSTRIES KK (3pp50) (J51139594)

UBEI D15 06334Y/04 =J7 9030-673

Regeneration of active carbon used in waste water treatment - by treating with an organic solvent and distilling in the presence of e.g. hydroquinone

UBE INDUSTRIES KK 02.06.75-JA-065311

*E36 (02.10.79) *J51141-791 +B01d-15/06 C02c-05/02*

The method comprises treating the waste active carbon with an organic solvent and distilling the resulting waste solvent in the presence of 10 ppm. of a non-oxidising agent to regenerate and recover the active carbon.

The waste water is one by-produced in prodn. of phenols, or it contains polychlorobiphenyl or lactam. The solvent is methanol, acetone, pentane, benzene, dimethyl ether, or dimethyl amine. The non-oxidising agent is hydroquinone, 2, 6-dibutyl-4-methyl phenol, N, N'-di-sec-butylphenol, or triphenyl phosphate. Active carbon can be recovered in high yield. 2.6.75 as 065311 B01d-15/06; C02c-15/02 (2.10.79) UBE INDUSTRIES KK (3pp51) (J51141791)

UBEI D15 06335Y/04 = J7 9030-674

Regenerating active carbon used to treat waste water - contg. organic cpds. such as waste water from prodn. of phenol

UBE INDUSTRIES KK 02.06.75-JA-065312

*E36 (02.10.79) *J51141-792 +B01d-15/06 C02c-05/02*

The method comprises treating the waste active carbon with an organic solvent to regenerate it. The solvent contains at least 1 ppm. of a non-oxidising agent, such as, hydroquinone, 2, 6-di-t-butyl-3-methylphenol, N, N'-di-sec.-butylphenol, or triphenylphosphate.

The waste water is by-produced in prodn. of phenol, amino(nitro)phenol, or diphenyl amine, or contains polychlorodiphenyl or lactam. The solvent is alcohol, ketone hydrocarbon, ether, or amine. Active carbon can be regenerated in high yield. 2.6.75 as 065312 B01d-15/06 C02c-5/02 (2.10179) UBE INDUSTRIES KK (3pp) (J51141792)

BPOW= ★ D15 78711B/43 ★SU -645-662

Sea and salt-contg. water distillation appts. - has multistage evaporator in which secondary steam from each stage is used to heat up the next stage

BELO POWER IND RES 21.03.77-SU-464084

H05 J01 (08.02.79) B01d-01/26 B01d-03/06 C02b-01/06

Equipment for distilling sea and salt-contg. waters, as well as separating liquid mixtures from fractions (e.g. of petroleum), and for regenerating the water used in thermal power stations using both organic and nuclear fuels, plus the chemical, metallurgical, etc. inds. is claimed. It is made as a series of vortical evaporating chambers, each of which is contained inside a shell and provided with tangential pipes for feeding and withdrawing the water being evaporated, plus an axial pipe which removes the secondary steam.

The effectiveness is increased, as a result of using the heat from the secondary stem, by positioning the chambers in series, with each chamber connected to the shell of the one after it using the pipe which removes the secondary steam.

Mashlakov, V.E., Prostak, A.Ya., Shporta, I.P. et al. Bul. 5/5.2.79. 21.3.77. as 464084 (3pp29)

LERA= ★ D15 78728B/43 ★SU -645-679

Removing emulsions and suspended particles from waters - using three-layer electrodes to impart electrostatic charge and coalesce impurities

LENGD RAILWAY TRANS 18.05.76-SU-377723

J01 P41 (09.02.79) B01d-35/06 B03c-05/02 C02c-05/12

Device for purifying waters from emulsions and suspended particles, e.g., in the chemical, metallurgical, etc., inds. comprises a container inside which are parallel sloping electrodes. The process is intensified by making the electrodes as three-layer assemblies in which the middle layer comprises an insulating material. The water to be purified enters the container passing the distribution and semi-immersed partitions and into the space between the electrodes. With the application of voltage, and under the effects of gravity and electrostatic forces, the negatively-charged particles of the impurity are directed towards the anode during the laminar flow of the liquid.

Dikarevskii, V.S., Ivanov, V.G., Chernikov, N.A. Bul 5/5.2.79. 18.5.76. as 377723 (2pp29)

PUBL= ★ D15 78819B/43 ★SU -645-942

Liquid aerator for effluent - has vertical shaft driving vaned disc via spider and springs, for smooth starting and stopping

PUBLIC BUILD TOWN P 03.11.77-SU-539067

(08.02.79) C02c-01/10

An aerator, comprises a vertical drive shaft carrying a vaned disc. To increase operating life, by reducing torque on the shaft, the disc is mounted freely on the shaft and on its upper end surface has stops with springs. The shaft has a spider, with each rib located between stops and connected with the free ends of the springs

When starting, the drive torque on the shaft is transmitted to the disc via the spider, springs and stops, the resistance of the working medium causing the springs to be compressed and absorb part of the energy, the spring then gradually decompressing. The springs similarly absorb part of the energy when stopping. Such arrangement provides smooth load transmission.

Repin, B.N., Klintsov, V.G. Bul. 5/5.2.79. 3.11.77. as 539067 (3pp1358)

IVAN= ★ D15 78863B/43 ★SU -646-14

Combustion decontamination of aq. waste - involves separating water into soluble material and solid particle contg. streams

IVANOVO POWER INST 09.09.77-SU-523553

J09 Q73 (05.02.79) F23g-07/04

The fire decontamination method for aq. waste can be used in chemical and petrochemical industries. The water is decontaminated by flame treatment in turbulent combustion products of the waste water. In order to ensure continuous reliable waste water decontamination, which contains soluble matter and solid particles, the waste water is separated into two streams: the stream with soluble matter and a stream with solid particles. Bubbles are passed through the second stream, and the droplets carried out are supplied to the turbulant combustion product stream, formed by the first stream treatment.

Gudzyuk, V.L., Bakhirev, V.I., Sheligin, B.L. et al. Bul. 5/5.2.79. 9.9.77. as 523583 (2pp110)

SUND/ D15 08677A/05 = US 4170-797

Domestic septic tank - with scum forming pump and blower for putrefaction tank

SUNDBERG H M 23.07.76-SW-008391

*Q42 (16.10.79) *DT2732-613 C02c-01/02 E03d-05/* +E03d-09/10*

Aerobic digestion closet includes a frother arrangement in the closed circuit arrangement between the receptacle, pump and storage tank. The resulting foam holds the solid matter on the surface of the bubbles and thus speed the digestion process.

The arrangment improves the appearance and smell of the receptacle being flushed with the recycled fluids. It is esp. suitable for small scale domestic use in isolated locations e.g. summer cottages. 22.7.77 as 818353 (7pp397)

THEM/ ★ D15 78974B/43 ★US 4171-256

Compact electrolytic appts. for chlorine generation - with forced coolant flow around transformer housing and semiconductor power rectifier

THEMY T 03.11.78-US-957566

E36 J03 (16.10.79) C02b-01/82 C25b-09 C25b-15/08

A chlorine generator includes a power transformer surrounded by a housing in thermal contact. A heat conductive metal frame is thermally connected to the housing and also to a metal block with a cavity in which a semi-conductor power rectifier is held.

An aq.coolant is passed through a conduit which passes through the frame adjacent to the housing. This cools both the transformer and rectifier. The output of the rectifier is connected to an anode and cathode of a Cl_2 generating electrolytic cell. The coolant is directed into the cell where it serves as the electrolyte. Overflow collant with increased Cl_2 level is directed to a reservoir.

The appts. is used to generate Cl_2 (and usually ozone) for sterilisation of a body of water such as a swimming pool. It is relatively compact and eliminates the conventional large cooling fins. 3.11.78 as 957566 (4pp295)

FMCC ★ D15 78979B/43 ★US 4171-263

Oxygenation of large body of sewage - by introducing sewage previously supersaturated with oxygen in small pressure vessel

FMC CORP 08.08.77-US-822594 (28.08.74-US-501423)

(16.10.79) C02b-01/34 C02c-01/06

The dissolved gas concn of a liq is increased by dissolving a gas in a first body of the liq under a pressure of at least several atmospheres. The pressure is decreased to atmospheric while impartting a min of turbulence to the liq. The depressurisation is accomplished without the liq. flowing along a path which has a sharp pressure drop. The first body of liquid is gently transferred into a much larger second body of the liq. at atmospheric pressure.

The method is particularly used in an activated sludge sewage treatment plant for increasing the O_2 content in a mixed liquor tank. The pressure vessel required is much smaller than in conventional installations. 8.8.77 as 822594 (+29.5.76 - US - 671659) (14pp295)

SHEL ★ D15 78980B/43 ★US 4171-264
Sepn. of oil-saline water emulsions - using coalescing filter of chemically pulped, classified cellulose fibres
SHELL OIL CO 27.05.77-US-801126 (16.06.75-US-587502)
F09 H03 J01 (16.10.79) B01d-19

Sepn. of 30-5000 ppm of a disperse oil phase from a continuous phase of saline water comprises contacting the emulsion with 1000-5000 ppm of continuous phase wet, disperse phase trapping, length classified chemically pulped cellulose pulp of fibres having min. length of 50-100 μ, and separately withdrawing oil and water. Specifically, the cellulose is fully bleached southern hardwood with substantially all the debris removed, and the emulsion treated pref. contains 500 ppm oil and 10 wt% NaCl, the cellulose concn. being 2500 ppm.

The use of classified chemical pulp allows treatment at 10 gpm/ft^2, reducing the required filter area by a factor of 10 compared to unclassified pulp and a factor of 100 compared to newsprint. 27.5.77 as 801126 (4pp920)

NALC ★ D15 78997B/43 ★US 4171-296
Hydrolysis of polyacrylamide dispersed in polymeric latex - as water-in-oil emulsion, using alkali-stable surfactant then alkali
NALCO CHEMICAL CO 02.10.78-US-947905 (15.10.74-US-514961)
A14 H01 (A25) (16.10.79) C08l-33/26

Polyacrylamide is hydrolysed by forming a polymeric latex comprising a water-in-oil emulsion. The emulsion comprises 20-50 wt% water, 10-40 wt% oil, 20-40 wt% finely divided polyacrylamide dispersed therin and 0.1-15 wt% of an alkali stable organic surfactant pref. ethoxylated fatty ether. The latex is reacted with an alkali metal hydroxide or quat. ammonium hydroxide to form a stable water-in-oil emulsion of finely divided hydrolysed polyacrylamide. It is pref. hydrolysed to 30-50 wt%.

It is used for thickneing and flocculation, e.g. dewatering of industrial and sewage wastes and clarification of turbid aq. solns. or sec. and tert. oil recovery processes. The emulsion dissolves in water much faster than hydrolysed polyacrylamide powder. 2.10.78 as 947905 (15.7.76 7.10.77, 5.6.78 - US - 705652, 840446, 912652) (5pp1302)

OCCI ★ D15 79011B/43 ★US 4171-342
Recovery of calcium fluoride from pond waters - by two stage treatment with calcium carbonate or oxide to ppte. solids
OCCIDENTAL CHEM CO 22.12.77-US-863085 (03.04.74-US-457565)
C04 E33 (E36) (16.10.79) C01f-11/22

Calcium fluoride is recovered from pond waters, contg. 0.1-5% F, 0.1-2.5% SiO_2 and 0.1-5% P_2O_5, 0.1-0.5% Ca in soln. and 0.1-0.5% soluble sulphate salts, and soluble metallic cpds. e.g. Fe, Al and Mg cpds. First, $CaCO_3$ is added with agitation so that 0.3-0.8 equiv. of Ca is added per equiv. of F, and soluble Ca salts are formed. Then additional $CaCO_3$ is added to 0.1-2 equivs. Ca per equiv. F, so that the total Ca equiv. added in the two steps is 1-2. The solids formed (contg. >85% of the initial F as CaF_2, together with Ca phosphate, SiO_2, Fe, Al and Mg) are sepd. and the CaF_2 is purified. The $CaCO_3$ may be replaced wholly or partly by CaO.

The pond waters result from the prodn. of wet-process H_3PO_4, and other processing waste waters can be treated similarly. The treated waters are suitable for recycling or for discharge into streams, etc. 22.12.77 as 863085 (+11.10.77, 3.1.77- US - 840533, 756009) (12pp1248)

MCGR/ ★ D15 79078B/43 ★WP 7900-791
Accelerated chemical reaction at increased pressure - in subterranean well with feed liquid proving hydrostatic pressure
MCGREW J L 17.03.78-US-887506
(18.10.79) C02b-03/08
D/S: N(BR, DK, JA, SU) + E(CH, DT, FR, GB, SW).

A chemical reaction between at least two reactants is carried out in a subterranean well. Inlet and outlet conduits lead to a reaction zone at the bottom of the well and hydrostatic pressure in the conduits provides a preselected pressure in the reaction zone.

The temperature of the feed is controlled to regulate the temperature in the reaction zone. Additionally hot liquid from the reaction zone heats feed liquid by a heat exchange action between the inlet and outlet conduits within the well. The temperature is maintained at a value which prevents boiling in the reaction chamber.

The appts. accomplishes wet oxidation of sewage sludge wherein one of the reactants is a stream of gas.

The use of a subterranean well allows the sewage processing plant to occupy less land surface area.

16.3.79 as US0168.(34pp295).
(E) ISR: US3606999; US3464885; US3804255; US4042510; US1291130; US2665249; US-895229; US2315577; US2773026; US3160685; US3246761; US3449247; US3853759.

ATLS D15 23821B/12 =WP 7900-835
Dehalogenation of halogenated organics - by ultraviolet irradiation in presence of hydrogen, for treating effluents, etc.
ATLANTIC RESEARCH CORP 27.03.78-US-890871
*E19 J04 (18.10.79) *US4144-152 B01j-01/10*
D/S: N(JA) + E(CH, DT, FR, GB, LU, SW).

Degradation of halogenated organic cpds. (I) having ≥ 1 C-Halogen gp. to remove halogen is achieved by treatment with U.V. radiation at 1800-4000 A in presence of H_2 with absence of oxidising agent.

(I), esp. toxic cpds. that are resistant to environmental degradation e.g. pesticides, soil fumigants, solvents etc. that appear in manufacturing wastes and spills, are degraded reliably and economically. Esp. useful in treatment of kepone.

15.12.78 as US0215.(28pp1248).
(E) ISR: US4045316; US3977952.

See Also

D13 GB 1554643 D22 DT 2913593 D25 J5 4119504

D16: FERMENTATION INDUSTRY

INSP ★ D16 77170B/43 ★BE -875-596
Modified lambda-bacteriophage DNA - useful as vector protein-producing genes
INST PASTEUR 14.04.78-FR-011109
B04 (15.10.79) C07h-21 C12k

The following are claimed: (1) a modified λ-bacteriophage DNA; (2) the phage whose genome comprises the modified DNA; and (3) a process for producing a hybrid protein by injecting a bacterium with a recombinant DNA obtained using the modified DNA.

The modified DNA has (a) mutations which prevent or retard the expression of genes which control the prodn. of the proteins necessary for encapsidation of the modified DNA in a bacterium (esp E coli) equipped with suppressors for the mutations; (b) a DNA fragment comprising at least a portion of the Z gene or E coli and a bacterial operon promoter inserted into a non-essential part of the phage genome; and (c) an endonuclease cleavage site in the said portion of the Z gene, with no other sites clearable by the same endonuclease in the modified DNA.

The process (3) can be used to produce protein hormones (e.g. pro-insulin or somatostatin) or bacterial or viral vaccines. 13.4.79 as 875596(17pp367).

INSP ★ D16 77171B/43 ★BE -875-598
Identification of nucleic acid fragments - by coupling with a complementary nucleic acid to liberate a bound enzyme, used e.g. for diagnosing infections
INST PASTEUR 13.04.78-FR-010975
B04 J04 R16 (15.10.79) G01n

The presence of a specific sequence or fragment of a nucleic acid, esp a gene, is detected by contacting the sample of the nucleic acid, opt after denaturing, with a probe comprising a complementarty nucleic acid capable of hybridising with the sequence of nucleic a cid sought, this complementary nucleic acid being coupled, before or after the hyb -ridisation reaction, with an enzyme. The presence of the specific sequence or fragment is revealed on a substrate for the enzyme. The enzyme pref acts chromogenically on the substrate so that optical analysis reveals its presence. A typical enzyme is β-galactosidase.

The process may be effected without expensive equipment by laboratory staff of limited experience. 13. 4. 79 as 875598 (15pp520)

NOVO ★ D16 77179B/43 ★BE -875-657
Immobilising glutaraldehyde-sensitive enzymes - in aq. medium in presence of poly:amine(s) esp. polyethyleneimine
NOVO INDUSTRI A/S 19.04.78-GB-015521
A96 B04 (18.10.79) C12b

Immobilisation of intracellulas enzymes sensitive to glutar -aldehyde is effected by reaction of microbial cells contg. such enzymes in an aq. medium with glutaraldehyde in presence of a polyamine having a significant number of prim amine gps then isolating the immobilised enzyme. Prod can be used batch processes or in continuous processes using the enzyme in columns.

The yield of enzyme activity may be raised from 0-15% to 30-70% in presence of polyamine. Pref polyamines are poly-(2-4C alkylene) imines esp polyethyleneimine with a mol. wt. of 500-100000 Daltons. The pref prim amine/aldehyde ratio ranges from 0. 1:1 to 1:1. The pref. ratio of glutaraldehyde/microbial cells w/w ranges from 0. 1:1 to 10:1. 18. 4. 79 as 875657(22pp288).

ROQF ★ D16 77207B/43 ★BE -877-034
Potato or manioc starch filter aid - for beer and cider, which does not clog
ROQUETTE FRERES SA 21.06.78-FR-018640
C03 (D13) (15.10.79) B01d C12h

Brewable liquids, esp fermented liquids, are brewed by using a native starch, esp from tubers, as filtration agent The presence of starch prevents the clogging of filters by fine organic matter in beer and cider.

The filter aid may be used as a pre-coat on filters which are then coated with conventional filter ai ds such as kieselguhr, or the starch may be stirred into the liquid and then passed through the filter. When used with kieselguhr, at least 50% and pref. at least 70% of the filter aid is starch. Potaot and manioc starch are preferred. To avoid micribiological contamination of the liquid, starch filter aids are stored for ≥ 6 months before use. 18. 6. 79 as877034 (14pp288).

MILE ★ D16 77212B/43 ★BE -877-060
Specific binding assay esp. for thyroid hormones - using prosthetic gp., converted to holoenzyme, as indicator
MILES LABORATORIES INC 22.06.78-US-917961
B04 J04 R16 (15.10.79) G01n

Specific binding assay for a ligand (L) in a liq. medium comprises first treating the sample with a labelled conjugate of a organic prosthetic gp (Pr') as indicator, and a binding component. This produces a mixt. of bound and free conjugate, the proporation depending on the amt. of L present.

An apoenzyme (Apo) able to combine with Pr to form a holoenzyme (HE) is then added and the amt. of indicator in the two forms is determined by measuring the HE-activity of the bound and/or free forms. Esp. the prosthe -tic gp is flarine adenine dinucleotide (FAD) and Apo is apoglucose oxidase.

Ligand derivs. of formulae Pr-R-L' and Apo-Pr-R-L' are new (L'=ligand or its analogue).

Used for assaying esp. antigens and antibodies, partic laptenes of mol. wt. 100-1000 such as thyroid hormones. The method uses only standard laboratory equipment, av ids radioactive materials, has high sensitivity and wide applicability, and the reactants are relatively easily synthesised. 18. 6. 79 as 877060(62pp1251).

DAMO- ★ D16 77217B/43 ★BE -877-09
Determn. of biologically active species in protein-contg. sample determines species cabable of reversible combination with protei e.g. hormones
DAMON CORP 27.11.78-US-963932 (20.06.78-US-917365)
B01 J04 K08 R16 (15.10.79) G01n

Presence and concn of biological active species such as h -rmones in liquid serum sample are detected to determin if species is capable of reversible combination with prote

Sample is incubated with complementary antibody and with an analogue of the species in order to distinguish it. Sample and antibody are sepd by membrane with sufficien porosity to allow sample and species to pass through but prevent passage of antibody and species combined with pr otein. Antibody is sepd from non-combined species and alogue. Quantity of analogue which can be distinguished i determined to indicate quantity of species not combined with protein.

The species is e.g. L-thyroxine, L-3, 5, 3'-triiodothyronine of digoxin 19. 6. 79 as 877090(44pp1055).

MULL/ ★ D16 77230B/43 ★BE -877-12
Extracting hops with carbon di:oxide under specified conditions - t give low polyphenol extract used in brewing
MULLER A 22.05.79-DT-920765 (20.06.78-DT-827002)
(15.10.79) B01d C07j C12c

Extn of hops or hops prods is effected using CO_2 followed by vapourisation of the CO_2 from the extract obtd. For extracting resins, tar oils and low mol wt. polyphenols, a temp range up to the CO_2 critical temp. and a pressure range above the CO_2 critical pressure during all the extrn are used.

The extract is either further extracted to obtain oestro genically active cpds, or isomerised by mixing with absor -bents and liquid CO_2 at high temp and pressure to form isohumulane.

The initial extract is used in brewing beer. The oestro genically active cpds, are used in animal feeds as protein synthesising agent, or in the prepn. of cosmetic prods or bath additives. The process enables an extract contg. all the better cpds, the low M. W polyphenols, and the hops oil cpds, avoiding the extrn of high M W polyphenols and chlorophyll obtd in previous CO_2 extrn processes. 20. 6. 79 as 877125(+4. 7. 78-DT-829308(21pp597).

BEZI- ★ D16 77268B/43 ★DL -136-79
Heat economising system for boiling beer wort - uses heat pump principle to raise vapours to required temp.
ZENLINST MINIST BEZ 31.03.78-DL-204506
(01.08.79) B01d-01 C12c-07

The principle of the heat pump is used to raise the vapour from a brewing wort boiler, as well as from the condensate detenter, to the energy level of the hot steam necessary for the concentrating of the wort. Liquid condensate is drawn off from the boiler to the detenter, and the hot wort is used regneratively to raise the temperature of the strained or filtered wort and of the cooling water. Due to the use of the heat pump, less than 100% of the normally required energy for boiling the wort, is necessary.

For application partic. in the brewing industry to effect economies in energy consumption when fluids are concentrated and then cooled. The heat available in the hot wort can be recovered practically in its entirety, and heat losses are minimal. 31. 3. 78 as 204506(11pp1045)

GLAS/ ★ D16 77305B/43 ★DL -136-895
Separation of biological particles e.g. cells - by di:electrophoresis in an alternating electric field
GLASER R 02.06.78-DL-205739
R16 (01.08.79) G01n-27/26

In a new process for the dielectrophoretic separation of biological particle mixtures, (a) the suspended particles are subjected to an inhomogeneous alternating electric field the frequency of which is so chosen that the particles to be separated are just more strongly polarised than those that are to remain in suspension; (b) the particles according to their polarisation, are attached to the position of highest field strength, e.g. a movable central electrode; and (c) the particles are subsequentially continusously or discontinuously removed, e.g. by transport with the central electrode into a chamber substantially shielded from the central electrode.

Selective separation of cells (e.g. yeast, bacteria, algae or blood cells or sperm) from suspensions by species-specific or physiological criteria. Useful in cell culture, animal husbandry, and the microbiological industry. 2.6.78 as 205739(6pp280)

GERN/ ★ D16 77358B/43 ★DL-137-053

Preservation of antigen substrates for diagnosis - by predrying, heating and storage esp. at low temp.

GERNAND K H 20.04.78-DL-204930
B04 J04 P31 (15.08.79) A61b-10

Preservation of antigen substrates comprises (a) dewatering, e.g. by pre-drying and heating to a particular level of fixation, then (b) storage under conditions adequate to maintain the fixation status.

Pref. the substrate is pre-dried at a moderate temp., then heated for a short time and finally packaged airtight in foils and stored at low temp. Alternatively it is freeze-dried then vacuum-packed and stored at normal temp. above 0°C.

The substrates are used to detect antibodies in serum or other body fluids, esp. in routine diagnosis. The substrates can be stored for ⩾ 6 months without loss of antigenicity, so that all the organs and tissues of a slaughtered animal can be utilised. One prodn. unit can supply many laboratories which will therefore produce directly comparable results. 20.4.78 as 204930(7pp1251)

HEIN/ ★ D16 77385B/43 ★DL-137-122

Large scale rota virus prodn. - with sepn. of cells from culture vessel by heating, useful e.g. for vaccine prodn.

HEINRICH H W 15.06.78-DL-206030
B04 (15.08.79) C12k-07

Method of large-scale cultivation of rota vines (reo-like virus) in bovine cell cultures, uses a strain of vines adapted to such cells and the cells are sepd. from the wall of the culture vessel by incubation at 42-70°C for 30 sec-7 days.

Pref. heat-labile virus contaminants are destroyed. The virus propagation phase is pref. for 8-48 hr.

The prods. are starting materials for vaccines and can be used for scientific purposes. The cells are sepd. without use of enzymes and simultaneously foreign viruses (e.g. herpeto-and retro-viruses) are destroyed without affecting the rota viruses. 15.6.78 as 206030(5pp1251)

DEAK ★ D16 77415B/43 ★DL-137-234

DNA synthesis stimulating protein - obtd. from spleen of mice infected with Rauscher leukaemia virus

AKAD WISSENSCHAFT DDR 30.06.78-DL-206416
B04 (22.08.79) A61k-35/28 C07g-07/02

New DNA synthesis-stimulating protein is obtd. by homogenising and repeatedly centrifuging spleen tissue from mice infested with Rauscher leukaemia virus; treating the virus-contg. sediment with 0.25-0.5M salt soln. (opt. contg. detergent); sepg. the dissolved protein mixt. by gel filtration with molecular sieves of the ''Sephadex'' (R.T.M.) G100-G200 type; and purifying the fraction of molecular weight 20,000-60,000 by affinity chromatography on immobilised DNA.

The protein can be used in conjunction with RNA-regulated DNA-polymerase (revertase) for the vitro synthesis of complementary DNA (gene synthesis). the DNA is useful in the analysis of oncovirus infections and in genetic manipulations. 30.6.78 as 206416(-pp 280)

SOLI/ ★ D16 77422B/43 ★DL-137-247

Virus antibodies detection - by incubating with reference virus suspension and viewing under electron microscope using negative contrast procedure

SOLISCH P 26.06.78-DL-206271
B04 J04 (22.08.79) C12k-01

In a new electron-microscopic rapid test for checking virus antibodies, a reference virus suspension (consisting of a preserved suspension of a pathogenic virus) is incubated with blood serum, a body fluid, or a preparation contg. virus antibodies, and subsequently routinely examined for virus-antibody complexes under the electron microscope using the known negative contrast procedure. Qualitative and quantitative evaluation of the specimen permits diagnosis of viral diseases, and testing of diagnostic agents, therapeutic agents, and vaccines.

Rapid, reliable and highly specific test for the determination of virus antibodies which can be used in the diagnosis of viral infections, and the testing of diagnostics, antivirals and vaccines. 26.6.78 as 206271(6pp280)

LOSS/ ★ D16 77442B/43 ★DL-137-325

Fibrinolysis activating fragments from streptokinase - produced by incubation with supported trypsin, having reduced antigenicity

LOSSE G 28.02.78-DL-203871
A96 B04 (29.08.79) A61k-37/54

Prodn. of new, partly proteolylically degraded prods. from Streptokinase (I) comprises treating (I), pref. in purified form, to partial degradation with immobilised trypsin, esp. carboxymethylcellulose-trypsin, to a max. of 90% degradation. Proteins of mol. wt. 20000-47000 were then isolated from the reaction mixt.

The prods. have the same, fibrinolysis-activating activity as (I) but have reduced antigenicity. They are useful in treating thrombosis, thrombophlebitis and pulmonary embolism. 28.2.78 as 203871(8pp1251)

SCHR/ ★ D16 77456B/43 ★DL-137-364

Recovering immunologically active fractions from leucocytes - using tonsils and adenoids as leucocyte source

SCHRODER I 01.04.76-DL-192147
B04 (29.08.79) C12k-05

Recovery of immunologically-active fractions (A) from leucocytes comprises first extracting (A) from fresh or frozen and stored tonsils andadenoids by applying 5 freeze-thaw cycles. (A) are then sepd. from immunogenic cpds. and endogenous toxins by dialysis against distilled water, then purified from pyrogens by fractionation on 'Sephadex G-25'(R TM).

The fractions are then freeze-dried, dissolved in distilled water, filtered sterile and the amt. present determined by UV absorption measurement with a physiological saline soln. The immunological activity is confirmed by the MEM-test, the soln. filled into bottles or ampoules and freeze-dried.

(A) transfer cellular immunity from a donot (giving a positive skin test) to an immunoincompetent recipient. They are used e.g. to treat chronic muco-cutaneous candidiasis. The method does not require expensive blood from donors but uses instead waste tissues from throat-nose-ear clinics. The organs can be stored at -20°C for many months. 1.4.76 as 192147(5pp1251)

GERN/ ★ D16 77463B/43 ★DL-137-383

Transport of infected urine samples for further testing - using stabilising test reagent as transport medium

GERNAND K H 04.05.78-DL-205178
B04 J04 R16 (29.08.79) G01n-33/16

Bacterially injected urine samples are transported for further testing in a microbiological laboratory after prior addn. of a test reagent. The transport medium comprises a test reagent which stabilises the relative proportions of the various infective bacterial species in the sample for several days and opt. simultaneously suppresses contaminating bacteria.

Process is esp. applicable to cases where a bacterial infection has been detected by addn. of a test reagent and further tests have to be carried out to identify the bacterial species involved. 4.5.78 as 205178(7pp367)

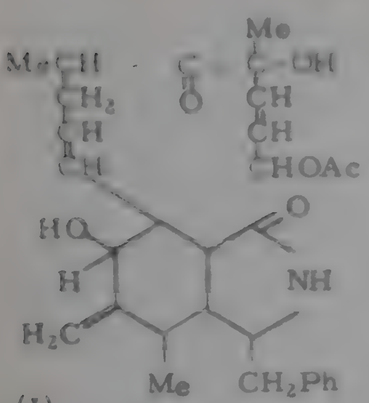
SHIO D16 23382R/14 #DS 1695-830

Antibiotic zygosporin a obtained by cultivation of - zygosporium in a nutrient medium

SHIONOGI KK 03.10.66-JA-065294 (12.02.68-DT-695830)
*B04 (18.10.79) *J70008-637 +A61k-31/40 C07d-209/52*

Zygosporin A of formula (I) is new.

Prepn. of (I) comprises propagation of Zygosporium masonii, ATCC 20011, and/or Z. mycophilum, ATCC 20012, in an aq. medium contg. the usual nutrients, under aerobic conditions at about 25-32°C for about 50-150 hr; and cpd. (I) is isolated by the usual methods, e.g., extraction of the mother liquors with EtOAc. The prod. is an effective antiinflammatory agent. 12.2.68 as 695830 (7pp 047)



(I)

MULL/ D16 11305W/07 =DS 2433-414

Liquid gasification esp. for aerobic processes - using rotor near bottom of deep tank with air inlet in venturi throat above

MULLER H 13.07.73-CH-010300

*(18.10.79) *DT2433-414 C12b-01/16*

Above the suction wheel of a centrifugal pump positioned close to the bottom of a fermentation container, a cylindrical guide tube is arranged. This has close to its upper end, a constrictriction, in which the gas feeder body is positioned; the outlets of this being located at the narrowest point of the annular constriction between the body and the tube. The gas feeder body is displaceable axially in the constriction.

Appts. is cheap to install and requires little energy. Since the necessary excess pressure required to circulate O_2 is reduced, economically working, low pressure blowers can be used. 11.7.74 as 433414 (4pp1045)

PROB/ D16 11310Y/07 =DS 2532-859

Baled hops homogeniser - for distribution of homogenised hops to successive brews

PROBST J 23.07.75-DT-532859

*(18.10.79) *DT2532-859 C12c-03*

Beneath a hop bale opener, aligned to its delivery outlet, a conveyor mechanism is arranged. This consists of an endless belt in a frame moved on rollers along rails, so as to distribute the hops into a series of containers, from which they fall on to a second conveyor belt.

Appts. ensures the complete homogenisation of the batch of hops so that its acid content can be determined and a uniform prod. handed over to the brewer. 23.7.75 as 532859 (3pp1045)

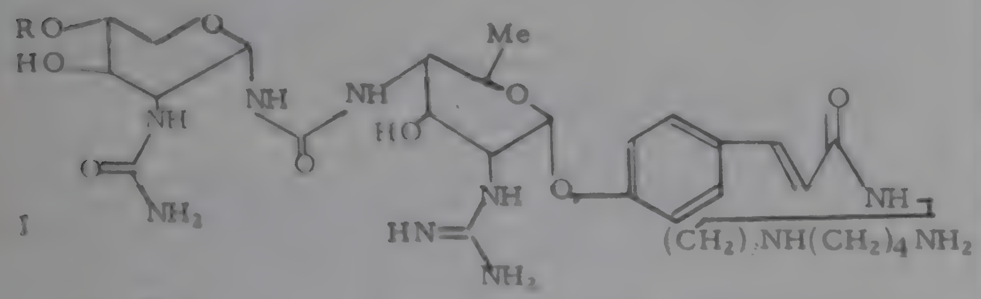
AMCY D16 12591Y/07 =DS 2637-545

Broad-spectrum antibacterials from nocardia sp. NRRL 5646 - sepd. into five BM 123 alpha-gamma cpds.

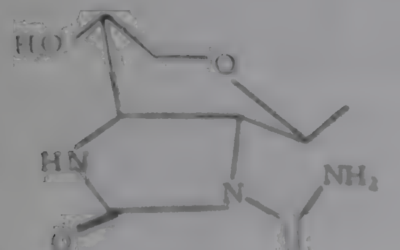
AMERICAN CYANAMID CO 21.08.75-US-606634

*B03 (18.10.79) *US4007-167 A61k-31/71 +C07h-09/06*

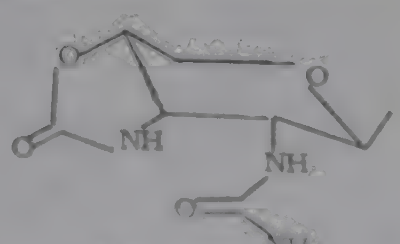
Antibiotics BM 123γ-1 and BM 123γ-2 of formula I, and their nontoxic salts are new. In (I) R is (II) or (III).



I



II



III

Prepn. of these cpds. comprises propagation of new Nocardia species under the usual conditions, and isolation of the antibiotics using standard methods. 20.8.76 as 637545 (11pp047)

MICR- D16 202408/11 =DS 2809-75

Bacteria concentrate for fermenting sausages and other meat prod - contg. Micrococcus varians and lactic acid bacteria, pre Pediococcus cerevisiae

MICROLIFE TECHNICS 06.09.77-US-830917

*(D13) (18.10.79) *DT2809-759 C12k-03*

A bacterial concentrate contains Micrococcus varians NRRL-B-11060 and 0.01-100 parts (based on a bacterial count) of a lactic acid producing, meat fermenting bacteri which lowers the pH value of under 5.4 to above 4.8 per part micrococcus. The concentrate contains at least 1x 10^9 bacterial cells/ml and is frozen at under -20°C.

The lactic acid bacteria is pref. Pediococcus cerevisiae DSM 1056. The concentrate may be used to form dry and semidry sausages and other fermented meat prods. 7.3.78 as 809759 (5pp068)

BEHW ★ D16 77507B/43 ★DT 2815-02

Photomeric determn. of enzyme activity - using high stabilit temperature monitor with integrated circuit operational amplifie discrminator

BEHRINGWERKE AG 07.04.78-DT-815029

B04 J04 R14 (18.10.79) G01k-07/24 G01k-13

The temp. monitor comprises a bridge circuit contg. tem sensors, e.g. NTC thermistors and a metering range pot entiometer. A second measuring point can be connected v a changeover switch. The output of the sensor is fed to a differential amplifier whose output is further amplified to drive an indicator. The differential amplifier is also con ected to a window discriminator using two operational am lifiers, adjustable via potentiometers.

The discriminator is connected to an or-gate whose ou put is selected to activate either a visual or audible alarm All amplifiers are incorporated in an integrated circuit to provide high stability and low drift. 7.4.78 as 815029 (8pp1286)

RZVE- ★ D16 77558B/43 ★DT 2815-758

Antigenic peptide complexes - useful as diagnostic agents for bacterial and fungal infections etc., vaccines and immunity transfer factors

R & Z VERMOGENSVERW 12.04.78-DT-815758

A97 B04 J04 (18.10.79) A61k-37/02 C07g-07

New peptide complexes (I) derived from DNA-contg. organ isms have the following characteristics: (a) mol. wt. 5000; (b) they form an RNA cpd. which has an av. mol. wt. of 9000-20,000 and gives a single homogeneous bond when subjected to gel and acetate-foil electrophoresis; (c) pref. of intracellular origin; (d) contains Ca; (e) give a pptn. reaction with Tb^{3+}; (f) are readily water-soluble; (g) have an ave. aspartic + glutamic acid content of ca. 30 mole%, base on total amino acids; (h) have a molar ratio of aspartic + glutamic acid to lysine + arginine of > 1; (i) have an origin-specific amino acid compsn; (k) have antigenic activity; and (j) have resistance-increasing activity.

(I) can be used (i) for the diagnosis of bacterial and fungal infections, rheumatoid arthritis, leukaemia, etc. (ii) as vaccines, e.g. for pertussis, and (iii) as transfer factors for delayed immunity. 12.4.78 as 815758 (26pp367

SYNT ★ D16 77640B/43 ★DT 2913-550

Immunoassay method for component of ligand anti:ligand pair - using labelled conjugates forming a signal generating system

SYVA CO 05.04.78-US-893650

B04 J04 R16 (18.10.79) G01n-31/14 G01n-33/16

A method is claimed for determining an analyte which is the ligand or antiligand component of a specifically binding ligand-antiligand pair. The method comprises contacting the sample with the following reagents in an aq. test medium: (a) a reactive conjugate comprising a component of th ligand-antiligand pair labelled with a reactive organic cpd. (I); (b) a signal-forming conjugate comprising a component of the ligand-antiligand pair labelled with a cpd. (II) forming part of a signal-forming system; (c) a signal-mediator precursor which reacts with (I) to form a signal mediator; (d) any auxiliary reagents required for the reaction of (I) and (II); and opt. (e) a polyligand analogue (if the ligand is monoepitopic and a mono-labelled monoligand is used as one of the conjugates).

The signal generated by the signal-forming system is measured and compared with a standard. (I) and (II) can opt. be coupled to the same ligand or antiligand molecule and can themselves be the same enzyme, in which case the signal-mediator precursor must contain more than one enzymatically clearable substituent.

The method can be used for determn. of antigens (esp. globulins, hormones or viral proteins) or haptens (esp. steroids or synthetic drugs). 4.4.79 as 913550 (78pp367)

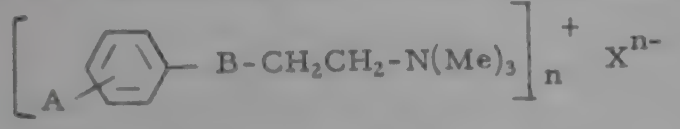
KYOW ★ D16 77672B/43 ★DT 2914-721

Cholinesterase activity determination - by reacting with new aroylcholine substrates and measuring amt. of choline and/or acid formed

KYOWA HAKKO KOGYO 17.04.78-JA-045097 (17.04.78-JA-044122)

B04 J04 R16 (18.10.79) C07c-93/20 C07c-101/04 G01n-31/14 G01n-33/16

Cholinesterase determn. is carried out by reacting the cholinesterase with a choline deriv. of formula (I) and measuring the amt. of choline and/or acid formed (where either (a) A is H or 1-5C alkyl or alkoxy and B is -R-COO- where R is 2-6C alkenylene, or (b) A is an OH gp. in one or both ortho posns. or a 1-5C alkyl gp. and B is -COO- X is a stabilising anion, esp. Cl; n is the valence of X.).


(I)

Also claimed are new cpds. of formula (I) where (a) A is H, p-Me or p-MeO and B is -R-COO-, or (b) A is Me in one or both ortho posns. and B is -COO-, and X, n and R are as above.

(I) are highly stable and are decomposed relatively slowly by cholinesterase (c.f. benzoylcholine) so that a long time is available before saturation is reached. 11.4.79 as 914721 (39pp367)

STEE/ ★ D16 77717B/43 ★FR 2414-554

Bacterial culture medium - useful as animal feed additive and to treat infections of the digestive tract

STEEG L 13.01.78-FR-000895

B04 C03 (14.09.79) A23k-01 A61k-35/20 A61k-37/48 C12b-03

A bacterial culture medium 'Stelac' (RTM) contains (a) conc. lactoserum predigested by a proteolytic enzyme, (b) lactoserum leavened in the presence of a vegetable flour, (c) yeast slurry obtd. from a strain of Saccharomyces cerevisiae, (d) two animal or vegetable proteolytic enzymes; (e) a carbohydrate as source of energy, and (f) glycerol.

Stelac may be used as a feed component or as a therapeutic agent for man and animals, being useful in the treatment of various digestive tract infections. The lactoserum is pref. a soft type from cheese making. 13.1.78 as 000895 (23pp520)

MICR- D16 09702Y/06 =GB 1554-446

Organ specific human cancer vaccine - produced by isolation of cancer antigen from tumour tissue originating from specific organs

MICROLOG LTD 14.07.75-US-595353

*B04 (24.10.79) *DT2630-380 A61k-35/12*

Vaccines for the treatment of human cancer are composed of an undenatured cancer antigen coupled with rabbit γ-globulin formed at ≤5°C. The vaccines are prepd. by (i) taking cancerous tissue from a diseased human organ having a common cancer antigen; (ii) homogenizing at 15000-85000 rpm; (iii) centrifuging; (iv) taking the middle layer formed; (v) removing from the middle layer normal protein antigens and albumin to give purified cancer antigen and (vi) coupling the antigen with the γ-globulin by means of bis-diazotised benzidine.

Vaccines can be used to treat cervical, breast and bronchogenic carconomas. 13.7.76. as 029023 (9pp974)

UNIL D16 71707A/40 =GB 1554-482

Non-dusting granulated enzyme compsn. prepn. - by extruding and granulating a mixt. of the enzyme and potassium salt of long chain fatty acid

UNILEVER LTD 14.03.77-GB-010594

*(24.10.79) *NL7802-418 C11d-09/40 +C11d-10/04*

Improved enzyme-contg. marumes are prepd. in which a mixt. of enzymes and organic or inorganic extrudable material is extruded, the extrudate being spheronised to form marumes. The extrudable material comprises a potassium soap of 10-18C fatty acids.

Pref. a potassium soap of coconut fatty acids or a superfatted K soap is used. A plasticising agent is added to the mixt. before extrusion. The mixt. or extrudate contains 1-8 wt.% of water, which is removed after spheronisation.

The enzyme-contg. marumes have satisfactory properties w.r.t. enzyme stability and storage stability in detergent powders, without giving rise to dusting problems on handling. 14.3.77. as 010594 (3pp931)

MEIJ D16 82525A/46 =GB 1554-628

Antitumour and antibacterial antibiotic SF-1942 - prepd. by cultivation of e.g. Streptomyces species SF-1942 FERM-P 3939

MEIJI SEIKA KAISHA 02.05.77-JA-049896

*B04 (24.10.79) *DT2818-544 C12d-09/16*

Antibiotic SF-1942 substance (I) is new. (I) is white and electrically neutral and melts gradually from 122-134°C with decomposition. (I) contains, on analysis, 65.57% C, 7.80% H, 26.38% O and 0% N. There is no characteristic absorption max. in UV spectrum, but IR spectrum gives bands at 3400, 2960, 1780, 1710, 1630, 1450, 1390, 1020, 780 cm^{-1} using KBr tablet method.

(I) is prepd. from Streptomyces strain by culturing at 22-32°C under aerobic conditions and is used in treating tumours and cancer. 27.4.78. as 016684 (10pp982)

ESSO ★ D16 77805B/43 ★GB 2018-822

Microbial cells prodn. from methylotropic microorganism strains - useful as feedstuffs and as sources of enzymes

EXXON RES & ENG CO 27.03.79-US-024307 (14.04.78-US-896476)

C03 (D13) (24.10.79) C12k-01 C12k-03

Microbial cells are produced by culturing a selected C_1-utilising microorganism strain aerobically in a liq. growth medium contg. source of N, essential mineral salts and a C_1-cpd. The resulting cells are then harvested.

The micro-organisms used are Methylosinus trichosporium or sporium; Methylocystis parvum; Methylomonas methanica (2 strains), albus; streptobacterium, agile, rubrum (2 strains) or rosaceus (2 strains); methylobacter chroococcum (2 strains), bovis (2 strains) or vinelandii; Methylococcus capsulatus, minimus or capsulatus; Methylobacterium organophilum, each having a respective deposition No. of NRRL B -11202 to 11222. Or Pichia sp., Torulopsis sp. or Kloeckera sp. with the respective deposition Nos. NRRL-Y-11328, 11419, and 11420. Their mutants may also be used.

The microbial cells and enzymes derived from them are useful for increasing the oxidative state of many organic cpds. Typically they can convert 1-6C alkanes to alcohols, 3-6C alkanes to s-alcohols and Me ketones, 3-8C s-alcohols to Me ketones, cyclic hydrocarbons to cyclic hydrocarbyl alcohols, ethylene, propylene, bute-1-ene and butadiene to 1,2-epoxides, styrene to styrene oxide etc. A NAD-dependent s-alcohol dehydrogenase has been found, esp. in cells grown on MeOH, and it specifically and stoichiometrically oxidises 3-6C s-alcohols to ketones. Methane-grown cells are useful as feedstuffs, as they have a high protein content. 12.4.79. as 013062 (48pp1248)

TAIS ★ D16 77844B/43 ★J5 4070-494

Antibiotic Rhonomycin prodn. - by adsorption of Rhonomycin-contg. culture filtrate or fungi extract on polyacrylate resin and eluting

TAISHO PHARMACEUT KK 15.11.77-JA-136186

A97 B04 C03 (A14) (06.06.79) C12d-09/14 C12d-13

Rhonomycin is produced by adsorbing phonomycin contg. culture filtrate or culture fungi extract or polyacrylate resin having specific surface area of 100 - 200 cm^2/g and average pore dia. 200 - 280 Å and then eluting adsorbed substance.

Rhonomycin is useful antibiotic of polyether gp. that inhibits growth of Gramm-positive bacteria produced in culture liquor and fungi body by actinomyces, mould, mycoplasma, protozoa and coccidium. 15.11.77 as 136186 (3pp69).

TOKR- ★ D16 77892B/43 ★J5 4117-379
Contact type device for reacting solid or liq. with gas - includes reactor column, vertical duct open at both ends, gas dispersing device below duct, for introducing bubbles
TOKYO RIKAKI KIKAI 06.03.78-JA-025230
E17 (12.09.79) B01j-10 C12b-01

A device is used to react a liquid or solid compound such as organic compounds with a gas such as oxygen for oxidising reactions for selectively oxidising glucose into gluconic acid, using a fixing oxidising enzyme. The object is to make the gas and liquid phases uniformly dispersed and mixed at high yield.

The device comprises a reactor column, which contains a vertical duct having openings at both ends, and a member for dispersing the gas phase and introducing bubbles only into the duct. The dispersing member is located below the duct. The liq. is poured into the column up to above the upper end of the duct, and the gas is fed into the same through the member in the form of bubbles. The enzyme is solid. 6.3.78 as 025230 (4pp26).

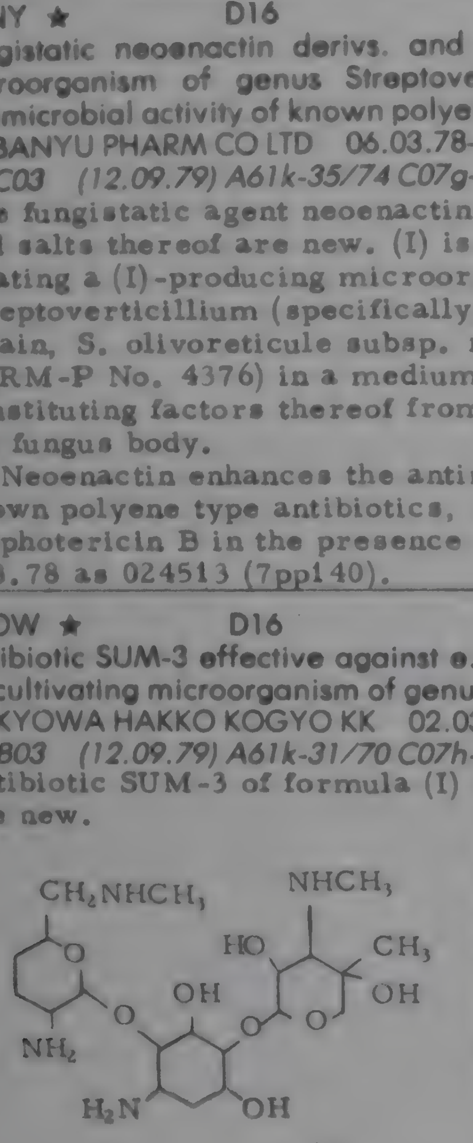
BANY ★ D16 77906B/43 ★J5 4117-401
Fungistatic neoenactin derivs. and salts - prepd. by cultivating microorganism of genus Streptoverticillium, used to enhance antimicrobial activity of known polyene antibiotics
BANYU PHARM CO LTD 06.03.78-JA-024513
C03 (12.09.79) A61k-35/74 C07g-11 C12d-09/14

The fungistatic agent neoenactin (I) and functional derivs. and salts thereof are new. (I) is prepd. by aerobically cultivating a (I)-producing microorganism belonging to genus Streptoverticillium (specifically, a newly discovered strain, S. olivoreticule subsp. neoenacticus H 829-MY10, FERM-P No. 4376) in a medium and recovering (I) or constituting factors thereof from the culture filtrate and the fungus body.

Neoenactin enhances the antimicrobial activity of known polyene type antibiotics, e.g., trichomycin or amphotericin B in the presence or absence of cholesterol. 6.3.78 as 024513 (7pp140).

KYOW ★ D16 77935B/43 ★J5 4117-477
Antibiotic SUM-3 effective against e.g. Proteus vulgaris - produced by cultivating microorganism of genus Micromonosporum
KYOWA HAKKO KOGYO KK 02.03.78-JA-022790
B03 (12.09.79) A61k-31/70 C07h-15/22 C12d-09/14

Antibiotic SUM-3 of formula (I) and its acid addn. salts are new.



(I)

(I) and its salts are effective against Staphylococcus aureaus 209P, Bacillus subtilis ATCC 6633, Echerichia coli NIHJC-2, Proteus vulgaris ATCC-6897, Pseudomonas aeruginosa KY8510.

Prepn. comprises cultivating a microorganism belonging to genus Micromonosporum and capable of producing antibiotic SUM-3 (e.g. M. sagamiensis SU-2, FERM-P No. 4230, NRRL-11,182) in a nutritive medium and recovering antibiotic SUM-3 from the culture. A liquid culture, partic. a submerged culture is pref.. Cultivation is conducted at 25-40°C at neutral pH.

Antibiotic SUM-3 is isolated and purified according to known techniques employed for purification of water-soluble and basic antibiotics, i.e., adsorption on cation exchange resin, cellulose column chromatography, adsorption on Cephades LH-20 (RTM) column, silica gel chromatography or carbon chromatography. The free base or the sulphate of antibiotic SUM-3 can be isolated and purified taking advantage of the difference in solubility in acetone. 2.3.78 as 022790 (10pp140).

AGEN ★ D16 77941B/43 ★J5 4117-500
Extracting substance for accelerating alpha-1,6 glucosidase prodn. - by treating rapeseed refuse at pH not above 5
AGENCY OF IND SCI TECH 03 03 78-JA-024156
(12 09 79) C07g-07/02

Extn. of substance useful as an accelerator for bacterial prodn. of α-1, 6-glucosidase comprises subjecting rapeseed refuse to treatment at pH ≤ 5.

The effective component is useful not only as an accelerator in prodn. of α-1, 6-glucosidase but also enhances the prodn. of various enzymes such as β-amylase and, further, it is effective for increasing the propagation of various microorganisms.

In an example, 100 g. of rapeseed refuse was suspended in 1.5 l distilled water, which was adjusted to about pH 4 with HCl followed by extrn. with stirring at 40°C for 6 hours. The pH of the extract was adjusted to 3 with HCl, followed by subjecting it to centrifuge to obtain extract soln.. The extract soln. was concentrated to about 150 ml. under reduced pressure. To the concentrate was added 150 ml. of C_2H_5OH. The resulting pptes. were collected by centrifugal machine, then dried. The dry prod. gave a wt. of 4.08 g. With this substance, prodn. potency of α-1, 6-glucosidase by Bacillus cereus var. mycoides showed 1.01 x 10^7. The yield of the effective component based on the extract was 94.1%. 3.3.78 as 024156 (4pp75).

DAIN ★ D16 78142B/43 ★J5 4119-02
Kit for quantitative enzyme immunoassay - comprises reagent c e.g. anti:epileptics labelled with different enzymes and antibod for the anti:epileptics
DAINIPPON PHARM KK 06.03.78-JA-025719
B04 J04 R16 (14.09.79) G01n-31/22 G01n-33/16

The kit comprises (1) reagent A comprising ≥ 2 antiepileptics or cpds. having the partial structure which are labelled with different enzymes, respectively and (2) reagent B comprising an antibody against the antiepileptics or cpds. having the partial structure.

The kit can detect two or more antiepileptics in the serum of patients simultaneously. Since effective dose of antiepileptics is very close to their toxic dose, it is necessary to examine the blood level of the antiepileptics during treatment of patients. Examples of the antiepileptics are diphenylhydantoin, phenobarbital, primidone, carbamazepine and trimethadione. The enzyme for labelling antiepileptics includes β-galactosidase, glucose oxidase, lipase, alkali phosphatase and peroxidase. 6.3.78 as 025719 (12pp33).

MITN ★ D16 78154B/43 ★J5 4119-07
Coenzyme/q-10 prodn. - culturing strain of microcyclus methanolic in medium contg. assimilable carbon sources
MITSUBISHI GAS CHEM IND 09.03.78-JA-026942
B05 (14.09.79) C12d-13 C12k-03

Production of Coenzyme Q_{10} comprises cultivating strain of Microcyclus methanolica in a medium containing assimilable carbon sources, separating the bacterial bodies from the cultured broth and recovering coenzyme Q_{10} from the bacterial bodies.

Coenzyme Q_{10} is known to be useful as a drug for treatment of emphysema, of the lungs, depilatory disease, anaemia or muscle asthenia or as cardiovascular agents.

Specifically the cultivation of Microcyclus methanolica is effected aerobically in a medium contg. assimilable carbon sources at 20-42°C (25-40°C) at pH 5-9 (6-8). 9.3.78 as 026942 (9pp).

KOBA/ ★ D16 78155B/43 ★J5 4119-080
Enzyme for de-conjugation of tauro-bile acids - is obtd. by cultivating intestinal microorganism; used to examine fa absorption, cholesterol metabolism and bile acids circulation
KOBASHI K 06.03.78-JA-025268
B04 (14.09.79) C12d-13/10

The enzyme has the following characteristics: (1) it acts on taurocholic acid, taurodeoxycholic acid and taurochenodeoxycholic acid among tauro-bile acids, but does not act on glyco-bile acids, (2) its optimum pH is 5.0-6.0, (3) its stable pH is 4.0-10.0, (4) its optimum temp. is 45°C, and (5) it is stable on heating at 50°C for 10 minutes.

The enzyme hydrolyses specifically tauro-conjugates among conjugated bile acids and is therefore useful in the clinical field to examine fat absorption, cholesterol metabolism and bile acids circulation.

The enzyme is produced by cultivating an intestinal microorganism and recovering from the cultured broth an enzyme which acts on tauro-bile acids specifically, but does not act on glyco-bile acids. The microorganism is e.g. Peptostreptococcus intermedium No. 619 (FERM-P No. 4428), Eubacterium rectale (FERM-P No. 4427), Streptococcus faecalis P (FERM-P No. 4429) and Saccharomyces carlsbergensis (FERM-P No. 4430). 6.3.78 as 025268 (4pp33).

KOBA/ ★ D16 78156B/43 ★J5 4119-081

Glyco-bile acid-de:conjugating enzyme - prepd. by culturing e.g. Streptococcus faecalis or Lactobacillus brevis strains pref. under anaerobic conditions

KOBASHI K 06.03.78-JA-025269

B04 (14.09.79) C12d-13/10

New glyco-bile acid-deconjugating enzyme has the following characteristics: (1) it is capable of deconjugating glyco-bile acids such as glycocholic acid, glycodesoxycholic acid, glycochenodesoxycholic acid, etc., but incapable of deconjugating tauro-bile acids; (2) the optimum pH is 5.0 - 5.5; (3) it is stable at pH 4-9; (4) the optimum temp. is 35°C; (5) it is 50% inactivated by heating at 45°C for 10 min.; and (6) it is stabilised by addn. of a mercapto cpd..

The enzyme is prepd. by cultivating Streptococcus faecalis II-136 (Ferm-P Np. 4432), Lactobacillus brevis 216 (Ferm-P No. 4431), Streptococcus faecalis Bm Sporolactobacillus inulinus or Bifidobacterium adolescentis in a nutrient medium and recovering the enzyme activity from the cultured borth. The fermentation is pref. carried out under anaerobic conditions. The enzyme is greatly stabilised by mercaptoethanol or thioglycolic acid at a level of 10^{-3}M.

The enzyme is useful for diagnosis and medical treatment. No specific use is given. 6.3.78 as 025269 (4pp16).

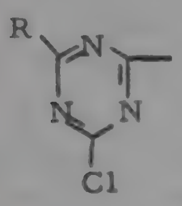
MIHA/ ★ D16 78157B/43 ★J5 4119-082

Modified asparaginase lacking antigenicity - obtd. by substituting its amino gps. by a polymer carrying s-triazinyl gp.

MIHAMA H 08.03.78-JA-026343

A96 B04 (14.09.79) C07d-07/02 C12d-13/10

A modified asparaginase lacking antigenicity claimed where ⩾85% of the amino groups in L-asparaginase molecule are substd. by a gp. of formula (I) where R is a residue of water-soluble high polymer having a mol.wt. > 2,000.



(I)

Used to enhance the safety of cancer therapy (anticancer) with L-asparaginase.

As the substit. R, residues of polyethylene-glycol, PVA, polyvinyl-pyrrolidone and carboxy-methylcellulose may be employed. The mol.wt. of such high polymers must be ⩾2,000, pref. 5,000. It is also pref. that the terminal of such residues is masked with an alkyl such as methyl, ethyl or propyl or an acyl such as acetyl or benzoyl. In a medium kept at pH 9, L-asparaginase is reacted with 5 to 10 moles of 2-O substituted polyethylene-glycol-4, 6-dichloro-s-triazine per amino group of the enzyme under a condition which does not cause protein denaturation, though the O-substituted polyethyleneglycol residue in the above reactant may be replaced by other polymeric residues. 8.3.78 as 026343 (3pp).

MITU ★ D16 78158B/43 ★J5 4119-083

Thermo-resistant superoxidedismutase prepn. - by crushing Thermus bacteria, adding deoxyribonuclease to decompose dna, allowing to stand and adsorbing top clear layer

MITSUBISHI CHEM IND KK 09.03.78-JA-026907

A97 B04 (A11) (14.09.79) C12d-13/10

Method comprises (a) crushing the bacterial body of Thermus, (b) adding deoxyribonuclease to the crushed prod. to decompose DNA, (c) standing the reaction mixt. and (d) treating the top clear with diethylamino-ethylcellulose to adsorb superoxide dismutase.

As the bacteria, highly thermophilic bacteria Thermus thermophilus HB8(ATCC 27634), Thermus flavus BS1, AT-61, AT62, etc. can be used. Pref. the bacteria is cultured at 75°C for 6 hours and the bacterial body is collected at logarithmic phase.

Thermo-resistant superoxide dismutase is prepd. easily. The crude enzyme can be refined by combining fractional pptn. diethylaminoethyl-cellulose column chromatography, CMC column chromatography, etc., 9.3.78 as 026907 (4pp5).

SUMO ★ D16 78159B/43 ★J5 4119-084

Carrier for fixing enzymes - comprises macroporous amphoteric ion exchange resin contg. carboxymethyl gp.

SUMITOMO CHEMICAL KK 08.03.78-JA-026913

A96 B04 (14.09.79) B01j-01/08 C07g-07/02

The carrier is a macroporous amphoteric ion exchange resin which has cation exchange capacity > 0.5 meq/g-dry resin through carboxymethyl group, anion exchange capacity >1 meq/g-dry resin through anion exchangeable group, specific surface area >1 m^2/g-dry resin and total volume of the macropores having 100-2000 A dia. > 0.1 cc/g-dry resin. The carrier is produced by reacting the cpd. XCH$_2$COOY (I) with the macroporous anion exchange resin which has the functional group reactive with (I) in the presence of alkaline compound so that carboxymethyl group is introduced in the resin above 0.5 meq/g-dry resin.

In (I) X is halogen atom, Y is hydrogen atom or alkali metal.

Enzymes can be fixed by adsorption and by covalent bonding. Relatively large amt. of enzyme can be adsorbed on the resin.

The fixed enzyme obtained by adsorption has good durability of enzymic activity, and the fixed enzyme obtd. by covalent bonding method has good specific activity, and stability in electrolytic solution. Enzymes such as pronase, aminoacylase, glucoseisomerase, lactase, nuclease, β-amylase, isoamylase, pullulanase, urease, deaminase, lipase, esterase, protease, etc. can be fixed. 8.3.78 as 026913 (11pp5).

TAKE ★ D16 78160B/43 ★J5 4119-085

Alkali protease - prepd. by culturing suitable microorganism; used to hydrolyse ester and amido linkages at the carboxy gp. of L-lysine

TAKEDA CHEMICAL IND KK 09.08.78-JA-027301

(14.09.79) C07g-07/02 C12d-13/10

Alkali protease has the following properties: (1) mol. wt. 27,000 ± 1,000 (Andrew's method), (2) max. absorption at 275-280 nm in the UV absorption spectrum, (3) shows absorption characteristic to protein, in IR spectrum, (4) isoelectric point: near pH 7, (5) solubility: soluble in water and aq. soln. of NaCl having the ionic strength of 0.1-0.01, and insoluble in (m)ethanol, acetone and ether, (6) activity: protease activity has the optimum pH at > 8.5, the esterase activity has the optimum pH at > 7.5, and amylase activity has the optimum pH at > 8.5.

(7) Protease activity has the optimum temp. at near 50°C, (8) pH stability: stable at broad pH range (5-12) at low temp., (9) temp. stability: inactivated by heating for 60 minutes at 40°C and at pH 9.5, and > 90% is inactivated by heating at 70°C for 60 minutes, (10), it hydrolyses specifically the ester linkage and amido linkage at the carboxy group of L-lysine, (11) it is inhibited by diisopropylphosphofluoride and L-lysinechloromethylketone, and is inhibited antagonistically by potassium ion, Rb$^+$, Cs$^+$ ion, Ba$^+$, methylamine and methylguanidine.

Interaction of the enzyme with a substance having peptide chain contg. as constituting amino acid ⩾1 L-lysine at the portion other than the carboxy end, hydrolyses selectively the linkage at the carboxy gp. of L-lysine, and there is obtd. a hydrolysate having lysine at the carboxy end. 9.8.78 as 027301 (10pp108)

KYOW ★ D16 78161B/43 ★J5 4119-086

Fermentative prodn. of uricase - by cultivating strain of genus Trichosporon for high productivity

KYOWA HAKKO KOGYO KK 06.03.78-JA-024482

B04 J04 (14.09.79) C12d-13/10

The process comprises cultivating a uricane-producing strain of the Genus Trichosporon in a nutrient medium and recovering uricase from the cultured broth. Typical uricane-producing strains are Trichosporon cutaneum KY5575 (IFO 0714) and T. heteromorphum ATCC 20001. The fermentation is carried out in a nutrient medium at 20 - 40°C, pref. at 30°C, 1 - 5 days, normally for 2 - 4 days. During the fermentation, the medium is kept at pH 3.0 - 7.0 pref. pH 4.0 - 6.0.

Uricase is useful in the uric acid assay for the diagnostic purposes. A variety of fermentative prodn. of the same have been known. The process gives high productivity and economic cultivation. 6.3.78 as 024482 (7pp16).

AJIN ★ D16 78163B/43 ★J5 4119-088
Biochemical oxidn. of alcohol and aldehyde - involves oxidn. reaction with dehydrogenase and NAD and conversion of obtd. NADH to NAD for use in oxidn. reaction
AJINOMOTO KK 09.03.78-JA-027099
(D13) (14.09.79) C12d-01/02 C12d-13

Method consists of (a) the reaction to form reduced-form nicotinamide-adeninedinucleotide (abrr. NADH) and to oxidise alcohol or aldehyde simultaneously by contacting the alcohol or the aldehyde (which can be oxidised by dehydrogenase in the presence of oxidised-form nicotinamide-adeninedinucleotide(abbr. NAD)), with fixed dehydrogenase and NAD for oxidising the alcohol or the aldehyde and reducing NAD to NADH simultaneously, and (b) the reaction to oxidise NADH to NAD by contacting NADH with the fixed enzyme obtd. by fixing the microbial body or the treated prod. of the microbial body which can oxidise NADH to NAD and belongs to Arthrobacter, Bacillus, Leucosporidium or Candida, in the presence of oxygen.

The oxidation of alcohol or aldehyde can be carried out under moderate conditions. Alcohol can be oxidised to corresponding aldehyde and the selective oxidation of formyl group or hydroxyl group of aldehyde can be practiced. Thus, the method can be adapted not only for preparing aldehyde, carboxylic acid, etc., but also for oxidising the alcohol or the aldehyde in foods and drinks, etc..

The reactions (a) and (b) may be practiced simultaneously or in order, and the reactions can be practiced repeatedly. Microbes such as Bacillus coagulans IFO 3557, Leucosporidium capsulidienam IFO, 1119, Candida tropicalis IFO 0589, etc. can be used. 9.3.78 as 027099 (5pp5).

AGEN ★ D16 78164B/43 ★J5 4119-089
Microbial prepn. of glycolic acid - by culturing Candida yeast strain in medium contg. ethylene glycol
AGENCY OF IND SCI TECH 09.03.78-JA-026897
E17 (14.09.79) C12d-01/02

The method is effected by culturing an yeast strain of Candida in the culture medium contg. ethyleneglycol and recovering formed glycolic acid from the cultured medium. Glycolic acid can be used for demineralisation in leather industry, finishing in textile industry, etc.. The yeast strain can oxidise ethyleneglycol to glycolic acid.

The yeast strain has been identified Candida tropicalis (FERM-P 4415). Practically ethyleneglycol is combined 2-20% pref. 5% in the culture medium. The yeast strain can not utilise ethyleneglycol as the carbon source and pref. hydrocarbon such as normal paraffins is used. The culture is practiced at 20-40°C pref. 30°C at pH 2-9 pref. 6-8 in the presence of sedimenting calcium carbonate. Formed calcium glycolate is dissolved by heating and the yeast body is removed by centrifuging. 9.3.78 as 026897 (4pp5).

KYOW ★ D16 78165B/43 ★J5 4119-090
Coenzyme/Q prodn. by fermentation - of agrobacterium microorganism, e.g. agrobacterium radiobacter ATCC 4718
KYOWA HAKKO KOGYO KK 07.03.78-JA-025040
B05 (14.09.79) C12d-03/02 C12d-13/10

Prodn. of coenzyme Q_{10} comprises culturing a microorganism belonging to Agrobacterium and having ability to produce coenzyme Q_{10} and which does not induce bark hypertrophy in a medium contg. carbon source, nitrogen source, inorganics and other nutrients.

In an example, Agrobacterium radiobacter ATCC 4718 seed culture (30°C, 24 hr., 250 ml) was inoculated and cultured in 3 L medium (pH 7.2, adjusted with ammonia) contg. 5 g/dl glucose, 1 g/dl ammonium sulphate, 0.05 g/dl KH_2PO_4, 0.05 g/dl K_2HPO_4, 0.025 g/dl $MgSO_4.7H_2O$, 2 g/dl corn steep liquor and 2 g/dl $CaCO_3$, at 30°C for 30 hr., 600 rpm and 3 -/min. aeration to accumulate 26 mg/L CoQ_{10} and $\leqslant$ 0.2 mg/L $CoQ_8 + CoQ_9$. The resultant culture (2 l) was centrifugated to give 41 g (dry) mycelia, which were suspended in 150 ml water and reductively saponified in presence of 400 ml methanol, 80 g NaOH and 15 g pyrogallol at 85°C for 40 min.. The reaction mixt. was extrd. twice with n-hexane and the extract wa dissolved in 40 ml acetone. The soln. was conc. to 10 ml and chromatographed over silica gel with benzene. Th active fraction was concentrated, dissolved in 5 ml ethanol and chilled to give 13 mg yellow crude crystals. 7.3.78 as 025040 (4pp38).

AJIN ★ D16 78166B/43 ★J5 4119-09
Fermentative prodn. of L-tryptophan - by culturing a Pseudomona alcaligenes or Flavobacterium microorganism using carbon di:oxid as carbon source
AJINOMOTO KK 08.03.78-JA-026407
B02 E13 (14.09.79) C12d-13

Fermentative prodn. of L-tryptophan comprises culturin a microorganism of genus Pseudomonas, Alcaligenes or Flavobacterium having ability to utilise CO_2 and H_2 and produce L-tryptophan in presence of CO_2 or carbonic ion, as C source, and H_2 and O_2, and recovering prod. accumulated in the culture medium. Pref. microorganism is a variant tolerant to tryptophan analogues or 5-methyltryprophan.

Process utilises CO_2 which is cheaper than conventional carbohydrate, methanol or benzoic acid used in known processes. In an example, Pseudomonas hydrogenothermophila FERM-P 3697, Flavobacterium autothermophilu FERM-P 3698 and Alcaligenes eutrophus ATCC 17697 were used as the microorganisms. 8.3.78 as 026407 (3pp)

YAMA/ ★ D16 78167B/43 ★J5 4119-09
Prodn. of carcinostatic emitanin - by treating culture prod. o Pholiota microorganism with ion-exchange resin, followed b ultrafiltration, fractional pptn., etc.
YAMAMOTO H 00.00.78-JA-087127
B04 (14.09.79) A61k-35/84 C12d-09/04

Process comprises (a) treating a culture or prod. from cultivation of microorganism of Pholiota genus with ion-exchange resin; (b) opt. subjecting to ultrafiltration with molecular sieve membrane; (c) fractionally precipitating the resultant soln. by addn. of organic solvent, acid or quat. ammonium salt; (d) opt. purifying by chromatography; and (e) recovering emitanin.

Emitanin A and B exhibited respectively 78 and 75 % inhibitory rate at each 10 mg/kg/day dose for consecutive 10 days intraperitoneary in ICR mice previously subcutaneously inoculated with Sarcoma 180 without manifestation of toxicity. The process consists of liq. culture and is industrially advantageous. 00.00.78 as 087127 (4pp38).

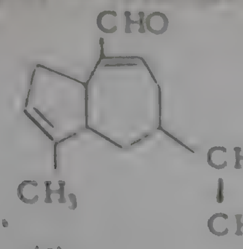
MITK ★ D16 78171B/43 ★J5 4119-290
Reagent for determining leucine aminopeptidase - contains l-leucine dehydrogenase extracted from mycelium obtd. by culturing a bacillus strain
MITSUI TOATSU CHEM INC 09.03.78-JA-026018
B04 J04 R16 (17.09.79) G01n-31/22 G01n-33/16

A reagent contg. L-leucine dehydrogenase (LDH) is new. LDH is extracted from mycellium which is obtained by liquid culture of Bacillus cereus, Bacillus subtilis and/or Bacillus sphaericus. The LDH used in the reagent includes crystal LDH, semi-purified LDH etc. The reagent is prepared by mixing L-leucylglycine, potassium phosphate bubber, NAD, LDH, water, electron-transmitting intermediate (e.g., phenazine methosulphate) and tetrazolium salt. The substrates are, e.g., peptides which have branched chain, L-leucyl group, L-valyl group, or L-isoleucyl group as the N group, amide cpd. or anilide cpd. which contains L-leucyl group, etc..

Determination of leucine aminopeptidase (LAP) activity is carried out accurately and rapidly, using the absorbance at 340 nm of NADH produced. 9.3.78 as 026018 (7pp90).

NODA ★ D16 78261B/43 ★J5 4119-443
5-Isopropyl-8-methyl-bi:cyclo(5,3,0)-deca-2.8 diene-2-carboaldehyde - produced by culturing fungi of genus Sclerotina
NODA INST SCI RES 09.03.78-JA-025942
B05 (17.09.79) C07c-47/44 C12d-13

5-Isopropyl-8-methyl-bicyclo(5, 3, 0)deca-2, 8-diene-2-carbaldehyde of formula (I) is new.



(I)

(I) is produced by culturing fungi of Sclerotinia genus having (I)-producing power. The fungus is e.g. Sclerotinia S-1 fungus (FERM-P 4214 ATCC No. 20497)

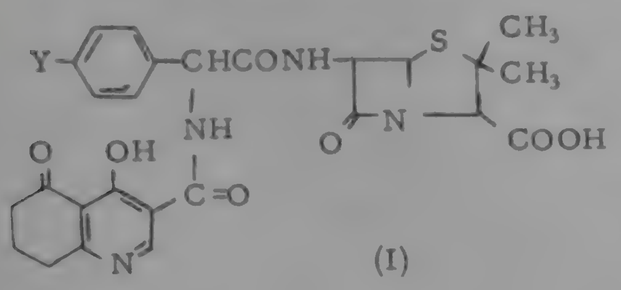
9.3.78 as 025942 (6pp69).

MITK ★ D16 78279B/43 ★J5 4119-484

Antimicrobial penicillinic acid derivs. - partic. useful against Pseudomonas microorganisms

MITSUI TOATSU CHEM INC 07.03.78-JA-024956
B02 (17.09.79) A61k-31/43 C07d-499/68

Penicillinic acids of formula (I) (where Y is H or OH and their salts and esters are new.



(I)

(I) and their salts and esters are useful as antimicrobials partic. against bacteria of genus Pseudomonas. Antimicrobial Activity MIC values (ug/ml) of (a) (I; Y = H, Na salt) and (b) (I; Y = OH, Na salt, against (i) Staphylococcus aureaus, (ii) Bacillus cereus (IAM 1729) (iii) E. coli (K-12) and (iv) Pseudomonas aeruginose (IFO-3901) are 0.78, 0.78; 6.25, 6.25; 1.56, 1.56; and 6.25, 3.13 respectively. 7.3.78 as 024956 (7pp).

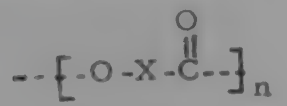
AGEN ★ D16 78350B/43 ★J5 4119-593

biodegradation of polyesteramide copolymer - using lipase or lipase-producing microorganisms

AGENCY OF IND SCI TECH 09.03.78-JA-026890
A23 (17.09.79) C08g-69/44

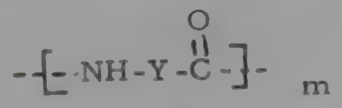
A polyesteramide copolymer made up of low mol.wt. polyester blocks and low mol.wt. aliphatic polyamide blocks is biodegraded with lipase-producing microorganisms.

Specifically the polyesteramide copolymer has the ester block of formula (I) and amide block of formula (II).



$$--\left[-\mathrm{O}-\mathrm{X}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}--\right]_n$$

(I)



$$-\left[-\mathrm{NH}-\mathrm{Y}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\right]-_m$$

(II)

In the formula X is -R_1OOCR_2- or -R_3- (where R_1 is 2-20 C alkylene, R_2 is 0-12C alkylene, and R_3 is 1-5C alkylene), Y is -R_4-NHCOR_5- or -R_6- (where R_4 is 0-12C alkylene group, R_5 is 0-12C alkylene group, and R_6 is 1-12C alkylene group), n is 10-40, and m is 1-10. 9.3.78 as 026890 (6pp218).

AGEN ★ D16 78351B/43 ★J5 4119-594

Biodegradable film - comprises polyesteramide contg. ester blocks of aliphatic polyester and amide blocks of aliphatic polyamide alternately bonded together

AGENCY OF IND SCI TECH 09.03.78-JA-026891
A23 (17.09.79) C08g-69/44

A biodegradable film is moulded from a copolymer in which are alternately bonded together the ester blocks of low mol.wt. aliphatic polyester and the amide blocks of low mol.wt. aliphatic polyamide.

The ester blocks are of formula $-\left[-\mathrm{O}-\mathrm{X}-\mathrm{CO}-\right]-_n$ (I) (where X is -R_1OOCR_2- or -R_3- (where R_1 is 2-20C alkylene group, R_2 is 0-12C (sic) alkylene group, and R_3 is 1-5C alkylene group); and n is 10-40. The amide blocks are of formula $-\left[-\mathrm{NH}-\mathrm{Y}-\mathrm{CO}-\right]-_m$ (II) (where Y is -R_4-NHCOR_5- or -R_6- (where R_4 is 0-12C(sic) alkylene group, R_5 is 0-12C (sic) alkylene group, and R_6 is 1-12C alkylene group); and m is 1-10.

This film has a high melting point suitable for practical uses, and yet has the biodegradable property.

The polyester-amide copolymer is e.g. prepared from poly-caprolactone 1.0 g and nylon-6 1.0 g by ester-amide exchange reaction catalysed by zinc acetate anhydride 10 mg (0.5 wt.%) at 270°C for 150 minutes. 9.3.78 as 026891 (6pp128).

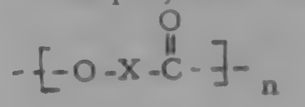
AGEN ★ D16 78352B/43 ★J5 4119-595

Biodegradable polyesteramide copolymer - comprising alternating blocks of aliphatic polyester and aliphatic polyamide

AGENCY OF IND SCI TECH 09.03.78-JA-026889
A23 (17.09.79) C08g-69/44

A biodegradable polyester-amide copolymer has a structure comprising ester block A of low mol.wt. aliphatic polyester and amide block B of low mol.wt. aliphatic polyamide bonded alternately. The copolymer is prepd. by heating the mixt. of high mol.wt. aliphatic polyester and high mol.wt. aliphatic polyamide above their m.pt. performing ester-amide exchange reaction until a reaction prod. having a decreased m.pt. is obtd..

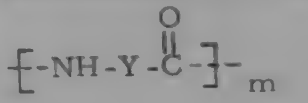
The polyester block A is of formula (I) where X is



$$-\left[-\mathrm{O}-\mathrm{X}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\right]-_n$$

(I)

-R_1OOCR_2- or -R_3- (where R_1 is 2-20C alkylene gp. R_2 is 0-12C alkylene gp. and R_3 is 1-5C alkylene gp.). n is 10-40). The polyamide block B is of formula (II) (where Y is -R_4-NHCOR_5- or -R_6- (where R_4 is 0-12C alkylene gp., R_5 is 0-12C alkylene gp., and R_6 is 1-22C alkylene gp.) m is 1-10).



$$\left[-\mathrm{NH}-\mathrm{Y}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\right]-_m$$

(II)

In an example, the polyester-amide copolymer is prepd. from polycaprolactone 1.0 g and nylon-6 1.0 g by ester amide exchange reaction catalysed by Zn acetate anhydride 10 mg (0.5 wt.%) at 270°C for 150 minutes. The copolymer 50 mg is decomposed by lipase 0.2 mg dissolved in 0.2M phosphoric acid buffer soln. 0.5 ml at 37°C for 16 hours. The total organic carbon solubilised by the enzyme is 1180 ppm. 9.3.78 as 026889 (6pp128).

CHIA D16 31471V/17 =J7 9030-936

Organic fertilizers from fermentation wastes prepn - by mixing waste with sawdust and concd sulphuric acid, heating filtering,, washing and drying

CHISSO ASAHI HIRYO KK (CHCC) 28.03.72-JA-030355
*C04 F09 (03.10.79) *J48096-360 +C05f-07 C05g-03*

Organic fertilisers are prepd. from liq. fermentation waste absorbed in sawdust or paper pulp wastes. In an example, conc. alcohol fermentation waste was mixed with dried sawdust and conc. H_2SO_4. The mixt. was heated to 120° for 1 hr., filtered, washed until no acidic reactions were obtd., and dried. 28.3.72 as 030355 C05f-7/00; C05g-3/00 (3.10.79) CHISSO ASAHI FERTILISER (3pp) (J48096360)

SYNT ★ D16 78496B/43 ★NL 7902-663

Direct immunoassay method for ligand or receptor determn. - using solid particles as carrier for ligand or receptor

SYVA CO 24.11.78-US-964099 (05.04.78-US-893650)
A96 B04 J04 R16 (09.10.79) G01n-33/16

Method determines an analyte in a sample, where the analyte is a component of a specifically binding pair comprising a ligand (e.g. an antigen) and its homologous receptor (e.g. antibody).

The test system used comprises (a) an aq. medium; (b) uniformly dispersed solid particles (e.g. agarose) to which a component of the ligand-receptor pair is coupled, forming a particle conjugate which creates around it a local environment different from the bulk medium; (c) a signal-producing system capable of producing a measurable signal which depends on the extent to which the signal-producing system is present in the environment of the particle conjugate; (d) a signal-indicator conjugate comprising ≥1 component of the signal-producing system coupled to a component of the ligand-receptor pair, whereby the amt. of signal-indicator conjugate bound to the particles is related to the amt. of analyte in the aq. medium. If the analyte is a 1st receptor, the component coupled to the particles can be the homologous ligand or a receptor for the 1st receptor, and the component forming the signal-indicator conjugate can be the receptor for the 1st receptor or its homologous ligand.

Method comprises (A) contacting the sample with the aq. medium contg. (i) the particle conjugate, (ii) the signal-indicator conjugate, (iii) the homologous component of the ligand-receptor pair (if the analyte, particle conjugate and signal-indicator conjugate all comprise the same component of the ligand-receptor pair) and)iv) any other components of the signal-producing system, and (B) comparing the observed signal with a standard. 4.4.79 as 002663(70pp)

GIDR= ★ D16 78566B/43 ★SU -632-202

Growth stimulator for feedstuffs yeast nutrient medium - comprises an ammonium salt of a sulphur contg. quinone-poly:carboxylic acid

GIDROLIZPROM SCI PR 19.10.76-SU-413362

(D13) (05.07.79) C12b-03/14 C12b-11/08

Nutrient medium for culturing fodder yeast comprises (in g. /l.): 10.0-30.0 wood pulp hydrolysate (calculated on reducible sugars), 3.0-9.0 N source, 1.0-3.0 P source, 0.6-1.0 ammonium salt of an S-contg. quinone-polycarboxylic acid (I) as growth stimulant, and balance water.

Inclusion of (I) improves the yeast yield by 1-6% over yields obtd. using a known growth stimulator, e.g. a sulphite-yeast residues concentrate.

(I) is used as a dark-coloured soln. having a pH 7.2-7.6 and contg. 16-20% dry material.

Stakhorskaya, L.K., Maksimova, L.S., Giterman, V.F. et al. Bul. 25/5.7.79. 19.10.76. as 413362 (2pp314)

TAKE D16 26732F/00 =SU -633-488

Antibiotic enduracidine

TAKEDA CHEMICAL IND KK 13.10.65-JA-062849

*B04 (27.04.79) *ZA6606-073 +C12d-09*

Enduracydine is a novel antibiotic obtd. by culturing Streptomyces fungicidus strains B-5477 (ATCC-21013) or B-5477 (ATCC-21014) under aerobic conditions in a nutrient medium contg. a C and N sources, and mineral salts. The prod. is recovered conventionally, if desired as a salt. The antibiotic has powerful antimicrobial activity against Gram-positive and acid-stable bacteria.

Shibata, M., Higashide, E., Hatano, K. et al. Bul. 42/15.11.78. 12.10.66. as 107677 (7pp314)

URAL= ★ D16 78583B/43 ★SU -644-762

Liquid paraffin cpds. purificn. - by extn. with heptane and aluminium chloride complex to remove aromatic and sulphur-contg. cpds.

URALS PETROLEUM INS 26.12.75-SU-307508

E17 H04 (20.04.79) C07c-07/10

Liquid paraffinic hydrocarbons are purified for subsequent use as starting cpds. in the mfr. of protein-vitamin concentrates. The method is useful in petroleum processing, petrochemical and microbiological industries.

The liquid paraffins contg. aromatic and S-contg. cpds. as impurities are purified by extn. at elevated temp. with selective solvent. The process is simplified if the extn. is conducted at 55-65°C using n-heptane and aluminium chloride complex as selective solvent.

The complex: starting cpd. ratio is 2-5:1 (pref. 1.5:1) Depending on the degree of purity required, 3-9 extn. stages are used.

Khazipov, R.Kh., Zolotaev, P.A., Bikkulov, A.S. et al Bul. 4/30.1.79. 26.12.75. as 307508 (4pp938)

INMI= D16 66837A/37 =SU -644-796

Purificn. of proteolytic enzymes - by sorption on addition prod. of bacitracin and agarose activated by cyanogen bromide (SW 9.1.78)

IND MICROORG GENETI (STEP/) 09.06.76-SU-370306

*B04 (30.01.79) *US4100-028 C07g-07/02*

Proteolytic enzymes with high degree of purity and activity are obtd. by biospecific sorption of the dissolved enzymes on an insol. carrier bacitracin-sepharose 4B obtd. by activating sepharose 4B, a derivative of agarose with cyanogen bromide and covalently bonding the antibiotic bacitracin thereto as a ligand, with subsequent elution of the sorbed enzyme using solns. of buffer salts. The method gives yields of 75-95%, with activity increased by 2-500 times, effectively extracts enzymes from culture liquids contg. coloured impurities, and may be used over a wide range of pH 1.8-8, thus rendering it useful in sepn. of proteolytic enzymes, e.g., metallo-proteinase and exopeptidase.

Stepanov, V.M., Rudenskaya, G.N. Bul. 4/30.1.79. 9.6.76. as 370306 (4pp1347)

UYLA= ★ D16 786368/43 ★SU -644-8

Growth stimulant for microorganism cultivation - compris nucleoside di- or tri-phosphate

LATV UNIV 24.02.76-SU-327303

(30.01.79) C12b-03/14

In the cultivation of microorganisms from the groups Bacillus subtilis, Flavobacterium sauveolens, Mycobacterium lacticolum, Pseudomonas fluorescens 310 and Actinomyces platensis, development of the biomass is increased and quickened using a nucleoside di- or tri-phosphate as growth stimulant in the nutrient medium. Culturing is carried out with aeration and the nutrient medium includes C, N and P sources. In a prefd. process, the amt. of nucleoside di- or tri-phosphate in the medium is 0.01-0.2 vol.%, most pref. 0.1 vol.%. A typical cultivation is carried out a 28°C for 4-5 days.

Vitol, M.Ya., Vilks, S.R., Dombrovska, E.A. et al. Bul. 4/30.1.79. 24.2.76. as 327303 (3pp314)

KFRU= ★ D16 78637B/43 ★SU -644-82

Medicinal apple wine recipe - based on wide variety of herbs, roo and flowers

KAZA FRUIT VINE 21.10.77-SU-536900

(30.01.79) C12g-01 C12g-03/06

Recipe for apple wine having increased organoleptic and medicinal props comprises (in kg. /1000 dal. (sic)): 0.5-0.7 wormwood, 1.0-2.0 wild marjoram, 0.4-0.6 yarrow 1.5-2.0 mint, 1.8-2.4 zizifora, 0.4-0.6 sea buckthorn, 0.3-0.6 levzeya root, 0.15-0.3 rose citronella root, 0.3-0.6 valerian root, 0.8-2.0 dog rose berries, 0.4-1.0 barberries, 0.4-0.6 everlasting flowers, 0.4-0.6 St. John's wort, 0.5-1.4 hawthorn, 0.15-0.2 ephedra, 0.4-0.6 coltsfoot, 0.3-0.4 plantain, 1.0-1.6 thyme, 0.3-0.4 bur marigold, 0.15-0.6 camomile, 0.07-0.2 elecampane 0.3-1.2 oak bark, 0.9-2.0 apple leaves, 0.9-2.0 pear leaves and the balance an alcohol-wine base.

Beketaeva, L.I., Alchimbaeva, A.T., Chipurin, M.M. et al. Bul. 4/30.1.79. 21.10.77. as 536900 (3pp314)

RILA= ★ D16 78638B/43 ★SU -644-83

Punch recipe - includes alcoholysed fruit juices, spices, alcohol citric acid, vanillin, sugar and water

RIGA LATVIYAS BALZA 27.09.77-SU-528261

(30.01.79) C12g-03/06

Recipe for a punch having improved organoleptic props comprises (in kg. /1000 dal. (sic)): 0.9-1.0 vanillin, 3000-3100 sugar, 0.9-1.0 citric acid, and (in l/1000 dal): 2952-3051 alcoholised strawberry juice, 1400-1477 alcoholised apple juice, 900-1000 alcoholised cydonin juice, 16.0-20.0 clove extract, 9.0-10.0 cinnamon extract, 9.0-10.0 nutmeg extract, 300-350 lemon peel extract, 150-170 alcohol and balance water.

Podrachnietse, M.Ya. Bul. 4/30.1.79. 27.9.77. as 528261 (2pp314)

MLFO= ★ D16 786398/43 ★SU -644-832

Fungal strain Aspergillus fischer Wehmer no. 75 - is used as a test culture in sterilisation of fruit juices and preserves

MOLD FOOD IND RES 04.10.76-SU-410000

(D13) (30.01.79) A23l-03 Ci2k-01/02

Fungal strain Aspergillus fischeri Wehmer No. 75 is used as a test culture in the sterilisation of fruit juices and preserves. Colonies extend over the substrate and are velvety, fluffy and initially white, becoming cream or dark cream. The inverse side in a young growth is yellow with orange overtones.

Conidial spore carriers appear in a 3-day growth at 37°C and very quickly become uticular. The conidial heads are columnar and compact measuring 15-21μ. The sterigmi are in one group about 6-8μ densely arranged on an axis parallel to the conidia.

Skoropad, F.I., Prokhorovich, L.E., Shteinberg, M.E et al. Bul. 4/30.1.79. 9.10.76. as 410000 (3pp314)

LAD= ★ D16 78640B/43 ★SU-644-834
lutrient medium sterilising agent - comprises sodium dodecyl-enzene sulphonate
VLADIVOSTOK EPIDEMI 11.08.77-SU-518426
E12 (30.01.79) C12b-03 C21k-01/06

la dodecyl-benzene-sulphonate is used as a nutrient me-lium sterilising agent in the cultivation of Gram-negative nicroorganisms. In a typical method 0.05g. are added per 100g. of nutrient agar, broth, liq. etc. and then the nedium is boiled for 5 mins. The agent does not affect he nutrient props. of the medium but ensures its steril-ty for 7-14 days. Serov, G.D., Sheverdina, F.N. Bul 4/30.1.79. 11.8.77. as 518426 (2pp314)

HEAT= ★ D16 78641B/43 ★SU-644-836
Measuring moisture stability of microorganisms - using moisture adsorbent and calculating amount of adsorbent required for mixing with biomass
HEAT-MASS-TRANSFER 02.02.76-SU-320707
(06.04.79) C12k-01

The moisture stability of microorganisms is measured by mixing a sample of the biomass with a water-adsorbing agent and measuring the number of viable microorganisms The amt. of adsorbent required for mixing is calculated by the relation $G_2 = (G_1\ \Delta u)/(U_k . C_{m_1}/C_{m2})$, where G_1 and G_2 are the absolute dry wts. in kg. of the biomass and the adsorbent; $\Delta U = U_H - U_K$ which is the moisture content gradient in kg./kg. U_H and U_K are the initial and final moisture content of the biomass in kg./kg; and C_m and C_{m_2} are the mean isothermic mass capacity of the biomass and adsorbent in mols./joule.

By calculating the amt. of adsorbent required, the accuracy of the process is improved.
Tutova, E.G., Konyuko, O.I., Disko, N.A. et al. Bul. 4/30.1.79. 2.2.76. as 320707 (3pp314)

KDPO= ★ D16 78713B/43 ★SU-645-664
Turbulent mass transfer appts. - has rod inside body supporting hollow fan-shaped blades made up of plates within which gas and liquid contact
KRASN POLY 24.06.76-SU-374595
(08.02.79) B01d-03/30

Mass-transfer turbulent appts. for use in wine-making, conserves prodn. etc. with the intention of making full use of the alcohol-contg. residues, comprises body with a rod distributed inside it, throughout the height of which contact elements, made from hollow fan-shaped blades, consisting of plates, are fitted. The mass-transfer is made more effective, due to the liquid phase being turbulised and the interphase surfaces being increased as a result of organising the flows of the interacting phases, by making the upper plates of the blades with a curved section, and attaching more curved plates to them. The lower plates are provided with tunnel-shaped gaps. Each of the curved plates consists of individual elements displaced relative to one another.
Anoshin, I.M., Arestov, V.G., Kuzminskii, S.B. Bul. 5/5.2.79. 24.6.76. as 374595 (3pp29)

STOL/ ★ D16 78899B/43 ★US 4170-842
Synthetic casing for mushroom beds - based on waste fibrous material, limestone and activated carbon
STOLLER B B 22.06.78-US-917937 (01.09.77-US-830011)
P13 (16.10.79) A01g-01/04

Casing material comprises a moist absorptive material, which is spent compost cotton seed hulls or 'clarifiber' (a by-prod. of sulphite pulp prodn), mixed with activated carbon and ground limestone, contg. 40-50 wt% moisture based on wt of absorptive material.

The compsn. uses cheap waste materials, and can give yields even higher than those obtained with more-expensive peat. Fruiting inhibiting substances diffusing from the compost are destroyed. 22.6.78 as 917937 (4pp955)

NEWB- D16 75845B/42 =US 4170-861
Automatically filling petri dishes with nutrient - by removing from stack and temporarily lifting lid to introduce growth medium and then stacking again
NEW BRUNSWICK SCIEN 07.04.78-US-894317
*+Q31 (16.10.79) *GB2018-288 +B65b-03/26 B65b-43/40*

In the automatic filling and handling of petri dishes, an indexed vertical support structure provides storage for empty dishes, empty lids and filled dishes with lids.

The empty dishes are individually removed from the base of the spring loaded storage position at a filling station and the storage head is rotated to a second position to deliver a lid. Further rotation of the head provides access to a filled dish storage column into which the filled dish is urged.

The apparatus is very compact and provides a low cost way of filling dishes in a rapid and consistent way. 7.4.78 as 894317 (18pp397)

SYNT ★ D16 78967B/43 ★US 4171-244
Enzyme-bound ligands - useful in determn. of poly:iodo-thyronine by immunoassay
SYVA CO 17.03.77-US-778514 (20.02.75-US-551566)
B04 J04 R16 (16.10.79) C07g-07/02 G01n-31/14

Enzyme-bound ligands of formula $E_1[(CX\text{-}A_1)_aCY\text{-}NH\text{-}CH\text{-}(COOD)(CH_2Z]_n$ (I) are new. (E_1 is an enzyme reversibly inhibited by ligand selected from malate dehydrogenase or triose phosphate isomerase, a is 0 or 1, n is 1-10, X and Y are chalcogen or NH, D is H or 1-6C alkyl, Z is 3,5-diiodo-4-(3, 5-diiodo-4-hydroxyphenoxy-1) phenyl-1, and A_1 is a bond or a 1-12C organic gp. opt. contg. 1-6 S, O or N, the total no. of heterofunctionalities being 0-4).

A malate dehydrogenase (MDH) bound ligand reversibly inhibited by the ligand and of formula $MDH\text{-}[CX_1\text{-}\delta_s\text{-}\alpha_p\text{-}\beta_q\text{-}\gamma_r\text{-}CY_1\text{-}NHCH(COOD)(CH_2Z]_m$ (II) (m is 1-8, X_1 and Y_1 are O, S or NH, p, q and r are 0 or 1, s is 0, 1 or 2, α and γ are 1-8C hydrocarbyl, β is O, S, SO_2 or 1-3C alkylamino, provided that when p is 0, β is NH_2 or alkylamino, is CH_1NHCO, T_1 is H or 1-3C alkyl, and Z and D are as defined above).

(I) and (II) are useful in the determn. of polyiodothyronines by immunoassay, as broadly disclosed in Der. 62805Y/35. 17.3.77 as 778514, Div. ex. 4043872 (+29.12.75-US-644408) (13pp1248)

OHIO- ★ D16 79020B/43 ★US 4171-354
Immunisation of cattle against respiratory disease - by injection of vaccine containing live culture of Pasteurella species
OHIO AGRICULTURAL 23.06.77-US-809292
B04 C03 (16.10.79) A61k-39/02

Cattle are immunised against respiratory disease of the type exhibiting the presence of Pasteurella sp. by intradermal injection prior to a stressing period of a vaccine contg. a live culture of Pasteurella hemolytica bacteria. The pref. application is in the immunisation of feeder calves against bovine respiratory disease (BVD) induced from a stressing factor (shipping fever complex).

A specified vaccine consists essentially of brain heart infusion broth as an aq. dispersion of proteinaceous material, an antibody-free fetal calf serum admixed with the broth and initially present in an amount of about 2 vol% and a field strain live culture of P. hemolytica incubated within the broth over an interval selected to drive a bacterial population effective to stimulate an immune response within the cattle following the injection. Incubation is pref. for 18-24 hrs. at 37°C. 23.6.77 as 809292 (7pp476)

CESK D16 62236W/38 =US 4171-412
Synthetic adsorbants for gel chromatographic sepn. of enzymes - obtd. from amino acids and peptides
CESKOSLOVENSKA AKAD 25.04.74-CS-002957
*A89 B04 J01 +R16 (A14) (16.10.79) *BE-828-373 C08f-220/20*

A specific sorbent comprises D-amino acid on a peptide contg. D-aminoacid units in amt. 8-100 μ mol/g covalently bonded to a solid particulate hydrophilic polymeric carrier of a copolymer of hydroxyalkylester or hydroxyalkylamide of (meth)acrylic acid with crosslinking ethylene diacrylate or ethylene dimethacrylate comonomers. Pref. the particulate copolymer is spherically shaped.

The solvent is used as an insolubilised inhibitor in the affinity chromatography of proteolytic enzymes. They do not undergo irreversible inactivation during repeated application and are mechanically and hydrolytically stable. 17.4.75 as 568776 (5pp393)

USDC ★ D16 79089B/43 ★WP 7900-823
Neisseria gonorrhoeae vaccine - prepd. from principal outer protein material isolated from gonococci
US SEC OF COMMERCE 23.03.78-US-889343
B04 (18.10.79) A61k-39/02

D/S: N(BR, DK, JA) + E(CH, DT, FR, GB, LU, SW).

POMP antigen, free from contaminants that are toxic to humans; having the ability to elicit a bactericidal response in humans; having sub-units of molecular wt. 34000-39000 Daltons; contg. both hydrophobic and hydrophilic gps; and comprising 4% carbohydrate and 96% protein is new.

The antigen(s) is used to form a vaccine for protectin humans against infection by Neisseria gonorrhoeae micr organisms. The antigen is bactericidal but not opsonic, it is free from other protein and from toxic amounts of lipopolysaccharides.
21.3.79 as US0183.(10pp1248).
(E) ISR: US1990982; US1717198; US1409796; GB-29340 GB--22395; GB-161341; DS-330348; DS-434751; DS-527183; OE--52848; DT2617870. 14 Journal Refere ces.

See Also

D13 DT 2838071 D13 GB 1554525 D13 GB 155453
D15 DS 2750252 D21 J5 4119992

D17: SUGAR; STARCH

AVEB- ★ D17 77749B/43 ★GB 1554-703
Prepn. of cold water insoluble starch prods. - by gelatinising a starch mixt. then treating with aq. salt soln.
COOP VERKOOP AVEBE 24.02.78-GB-007562
A11 (24.10.79) C13l-01/08

Prepn. of cold water insoluble starch prods. involves (a) forming a dry mixt. or an aq. suspension of ⩾2 types of starch; (b) gelatinising the mixt. or gelatinising and drying the suspension to give a dry cold water soluble starch. Then (c) preparing a suspension of this starch in an aq. soln. of a salt that raises the swelling temp. of the starch and (d) recovering the prod.

The prods. can have selected specific properties, depending on the starting starches used; they can easily be chemically cross-linked to improve their properties. The prods. are useful in the paper or textile industry, in adhesives, in processed foods, in pharmaceuticals and in cosmetic prods. 8.5.78. (5pp1248)

ASAF ★ D17 78093B/43 ★J5 4118-488
Sepg. aldose(s) from ketose(s) - by treating sugar mixt. with specified polymer, e.g. aminated chloromethyl-styrene-di:vinyl benzene copolymer
ASAHI DOW KK 06.03.78-JA-025289
A97 (A18 A21 A23) (13.09.79) B01d-15 C08f-08/32

Aldoses are separated from ketoses by treating sugar mixture with (1) a polymer comprising 0 - 96 mol % monomer(s) of formula $-\!\!(CH_2-CR_1R_2)\!\!-$ where R_1 is H or CH_3 and R_2 is phenyl, and/or 3 other specified monomers; 2 - 98 mol % of monomer(s) of formula $-(CH_2-CHNH_2)$ or 3 other specified monomers; and 2-40 mole % of a cross-linking agent e.g. divinylbenzene, tolylene diisocyanate etc.; or (2) a polymer deriv. of cellulose, polyamide or phenol resin contg. NH_2 equivs. and each having a degree of swelling of 20 times with water.

In an example, chloromethylstyrene/divinylbenzene copolymer (mol. ratio of 98: 2) is aminated by Delepine reaction to prepare cross-linked polyvinylbenzylamine (having adsorption capacity of 3.8 meq/g for HCl). The product (0.5 g) is sampled in a test tube and added with an aqueous soln. (10 ml) contg. 0.1 g of glucose and 0.1 g of fructose. The mixture is heated at 70°C for 30 min. and the adsorption is determined to be 53 mg for glucose and 1 mg for fructose per g of the resin, unlike polyvinyl-N-methyl-benzylamine or Amberlite IR-93 which show no adsorption. 6.3.78 as 025289 (10pp).

STAR= ★ D17 78642B/43 ★SU-644-839
Grain moistening in starch prodn. - using sulphurous acid soln. and an additional strong acid
STARCH PROD RES INS 14.07.76-SU-383897
(06.03.79) C13l-01/02

Grain is moistened in the prodn. of starch by soaking in H_2SO_3 at 45°-55°C, including adding an additional strong acid, pref. HCl, H_2SO_4 or HNO_3, to a concn. 0.05-0.15% 1-4 hrs. after the start of the soak. Addition of the strong acid speeds up the moistening process

In a typical process, the initial soak is carried out using 0.20% H_2SO_3 soln. at 50°C; after 4 hrs. HCl is adde to a concn. 0.15%. Soaking is continued for a further 44 hrs. and the final pH of the soln. is 3.7. The starch yield is 67.48%; the starch content of the dried pulp prod. is 22.31% and of the dry grain material is 3.64%.
Zakharchenko, N.A., Goldshtein, V.G. Bul. 4/30.1.79. 14.7.76. as 383897 (4pp314)

STAR= ★ D17 78688B/43 ★SU-645-07
Grain moistening process completion determination - by removin a sample-draining and measuring resistivity
STARCH PRODUCTS RES 14.07.76-SU-383898
R16 (31.01.79) C13l-01/02 G01n-33/02

The completion of grain moistening process in the prodn. of starch is determined by removing a sample of the grain every 1.5-2.5 hrs. removing surface moisture and measuring the resistivity of the sample. The process completion is indicated by stabilisation of the resistivity over 2-3 successive samples. The method is quick and simple.
Goldshtein, V.G., Zakharchenko, N.A. Bul. 4/30.1.79. 14.7.76. as 383898 (3pp314)

CORP D17 69954B/39 =US 4171-38
Refining moist whole wheat grain - to recover starch and anim feed, includes cleaning, macerating, wet-milling and sepg. int fractions
CPC INTERNATIONAL INC 11.05.78-US-904952
*C03 G03 P41 (D13) (16.10.79) *BE-876-126 +A23k-01*

A continuous wet wheat refining process comprises cleani whole wheat kernels to separate the extraneous vegetable matter, and wet milling the kernels.

The wet milling process provides a mill starch slurry Fibre (bran) tailings are separated from the slurry, whic are then washed and dewatered. The mill starch slurry i then separated into starch-rich and protein-rich fraction The protein-rich fraction is concentrated and dewatered, and combined with the wheat cleanings, the dewatered fibre (bran) tailings and an aq. concentrate resulting from the partial evaporation of the filtrates obtd. during the dewatering of the protein-rich fraction to form a wet anima feed prod. which is then dried.

Prime wheat starch is obtd. in high yields while permitting shorter soaking or steeping times. The wet millin process avoids the need for dry grinding and dough-washing procedures that adversely affect the yield. 11.5.78 a 904952 (4pp931)

See Also

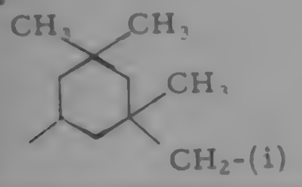
D15 J5 4118656

D18 : SKINS ; HIDES ; LEATHER ; TOBACCO

FARB D18 71328U/47 =DS 2221-756
Solvent-resistant polyurethane coatings - on textiles and leather
BAYER AG 04.05.72-DT-221756
*A25 G02 + P42 P73 (A82) (18.10.79) *NL7306-180 C08j-05/18 C08l-75/04 C09d-03/72 C14c-11 D06n-03/14*

A polyurethane coating, resistant to solvents, light, cracking and rubbing on testiles, leather or artificial leather or a polvurethane foil is prepd. The substrate is coated with a soln. of a linear polyurethaneurea, (I) free from NCO or NH_2 gps. in a solvent mixt. of (a) aromatic and/or aliphatic (chlorinated) hydrocarbons and (b) aliphatic and/or cyclo-aliphatic sec. and/or tert. alcohols contg. a non-volatile (cyclo)-aliphatic polyisocyanate in wt. ratio polyisocyanate to (I) of 1:10 to 1:1.

The solvent is evaporated and then polyisocyanate and (I) are allowed to react by storage at room temp. or by short heating at 150°C. Polymer (I) is obtd. by reacting a polyurethane prepolymer based on (cyclo) aliphatic diisocyanate and amino functional, dibasic chain lengthening agents. At least half the resin segments of (I) are units (i).



4.5.72 as 221756 (11pp068)

HAUN ★ D18 77506B/43 ★DT 2815-025
Cigarette filter tip strand machine - with beta ray source and receiver keeping strand density constant
HAUNI-WERKE KORBER KG 07.04.78-DT-815025
A88 F07 P15 (A11) (18.10.79) A24c-05/50 B01d-39/14

A machine for the continuous production of filter tips for ciagarettes from a tissue strip esp. of cellulose acetate, includes a stretching device to prepare the strand for the application of a plasticiser (triacetin). A beta ray source scans the finished strand and controls the feed roller at the end of the stretching section in case of any discrepancy from a set mass flow rate.

This ensures that neither short-term nor long-term deviation can persist in the density of the finished filter tips. 7.4.78 as 815025 (13pp39)

BRTA ★ D18 77622B/43 ★DT 2911-533
Impregnated alumina chemisorbent compsn. - for removing harmful components of tobacco smoke and improving flavour
BRIT AMER TOBACCO LTD 10.04.78-US-895220
A97 J01 P15 (A26) (18.10.79) A24b-15/02 A24c-05/50 B01d-53/02 B01j-01/22

Chemisorbent compsns. consisting of Al_2O_3 impregnated with polyethylene imine, acetic acid, and Zn acetate. Also claimed are cigarettes incorporating filters, contg. the above compsn. The Al_2O_3 pref. has pore size 0.1-2 µm and pore volume not less than 0.3 cm^3/g. Polyethylene imine content is 2-9, pref. around 5wt.%, Zn acetate content 0.5-5 (1-2) esp. around 1%. Molar ratio of Zn acetate to polyethylene imine is 1:10-20. In filter tips for cigarettes, the absorbent compsn. may be dispersed on a fibrous carrier, or contained between cellulose acetate filter plugs.

Used esp. for removal of harmful gases and liquid droplets from tobacco smoke. H_2S, HCN and acetaldehyde are absorbed in addition to tars, and flavour of the smoke improved. 23.3.79 as 911533 (23pp195)

BILS ★ D18 77635B/43 ★DT 2913-354
Prodn. of cellulose fibres from wood, and paper made from them - with low air resistance, etc. for use in cigarettes
BILLERUD UDDEHOLM 03.05.78-SW-005087 (10.04.78-SW-003974)
F09 (18.10.79) D21c-01/06 D21c-03/22 D21c-09 D21h-05/16

Cellulose fibres are made, pref. from wood as raw material, by mechanical working in strongly-alkaline aq. soln. contg. OH gps. in concn. corresp. to 20-100 (30-80) g/l. NaOH. Also cellulose fibres in the form of multiply-bent main stems with branches of fibre bundles along their length, with fibre length after beating to 80 SR such that ≥ 25 % will not pass a 50 mesh sieve, and width of 10-100 µm. Also paper from such fibres with R_{18} value 90% min., the paper having air resistance -1.0 to +2.0 log. Gurley, breaking length 3 km. min and opacity 40% min., determined on standard paper of 30 g/m^2. weight.

Used esp. for cigarette paper. Paper with low air flow resistance, high opacity, good capacity for filler absorption and high capillary stiffness, as required for cigarettes, is obtd. without use of flax or jute fibres, which are expensive and variable. 3.4.79 as 913354 (55pp195)

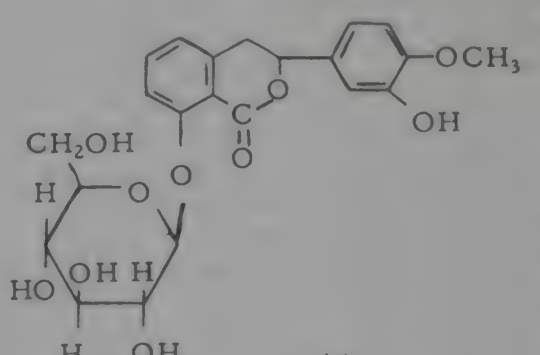
CLAR- ★ D18 77742B/43 ★GB 1554-559
Degreasing appts. for skins - has chamber for soaking skins in solvent and still for purifying solvent after use
CLARK SON & MORLAND 13.08.75-GB-033751
(24.10.79) C14c-05

The appts. comprises a solvent storage tank, a chamber for housing the skins and a still for purifying the liq. solvent after use in the chamber. The skins are conveyed to the chamber, the chamber sealed and a vacuum applied to the chamber. Solvent is supplied to the chamber and the skins soaked in the solvent. The chamber is then vented and a vacuum applied to the chamber to withdraw solvent for return to the storage tank.

Used for removal of grease and dirt from skins and hides to make them suitable for subsequent mfg. steps. 13.8.76. (5pp67)

NISB ★ D18 77936B/43 ★J5 4117-479
Hydroxy-methoxy-phenyl-di:hydro iso:coumarin-8-O beta-D-glucose - used as tobacco flavour improving agent
JAPAN TOBACCO & SALT PUB 06.03.78-JA-024442
E13 P15 (12.09.79) A24b-15/04 C07h-17

The isocoumarin deriv. of formula (I) is new. It is used as an agent for improving tobacco flavour.



(I)

In the prepn. of (I) raw leaves of Hydrangea macrophylla seringe var Thunbergii Makino are subjected to extraction with water, hot water or a hydrophilic solvent such as methanol, ethanol or dioxane, or its mixture with a hydrphobic solvent such as benzene, ether, dichlromethane or chloroform. The extract solution is filtered. The filtrate is evaporated to dryness under reduced pressure. From the residue is removed the portion soluble in ether. To the remaining material is added water, and the aq. mixture is subjected to extraction, followed by filtration. The extract solution is passed through a column packed with weakly cationic ion exchange resin so that polyphenol type material is adsorbed on the resin, and the adsorbed material desorbed with methanol or ethanol. The eluate is purified by conventional manner to obtain (I) as white needles. 6.3.78 as 024442 (4pp75).

BRUS/ ★ D18 78643B/43 ★SU -644-841
Chrome-tanning leather, e.g. pigskin - by preliminary de-liming, softening and treating with urea to loosen collagen structure and to facilitate tanning
BRUSILOVSKII M I 28.01.77-SU-446677
E16 (02.03.79) C14c-01 C14c-03/06

Leather (e.g. pigskin) is produced by deliming the hide, softening it, treating with an amino cpd. and chrome-tanning.

The quality of the product is improved by using urea as an amino cpd. This process is less expensive than the conventional process involving the use of dicyandiamide

resin, and the strength of the product is increased (tensile strength is increased from 20 to 21 MPa).
Brusilovskii, M.I., Shapirov, V.S., Lysunets, B.P. et al. Bul. 4/30.1.79. 28.1.77. as 446677 (2pp70)

CHIS/ ★ D18 78644B/43 ★SU-644-842

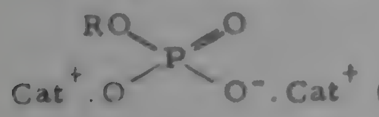
Aq. compsn. for degreasing collagen-contg. materials - contg. soda, higher alkyl phosphate ester salt and nonionic detergents, used in catgut, gelatin leather etc. mfr.

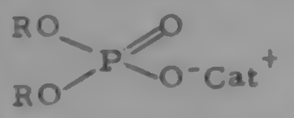
CHISTYAKOV B E 21.02.77-SU-461622
(02.03.79) C14c-01/08

Aq. compsn. is used for degreasing collagen-contg. materials, esp. intestines for the prodn. of strings or catgut, and in leather-fur and gelatin-glue mfr. It contains soda and a surfactant and is improved by using as surfactants a mixt. of 10-20C alkyl phosphate ester salts pref. with triethanolamine or potassium, and nonionic detergent.

The compsn. contains (in wt.%) soda 20-50, 10-20C alkyl phosphate salts with triethanolamine or potassium 10-20, synthanol 20-60, the balance is water. This compsn. is highly effective as a decreasing agent and, in addition, it exerts bleaching action.

The phosphate ester salts have formula (I) or (II):


(I)


(II)

(where R is normal or sec. 10-20C alkyl; and Cat$^+$ is $(C_2H_4OH)_3NH^+$ or K^+). The nonionic detergents Sintanol (RTM), are $RO(CH_2CH_2O)_nH$ (where R is 10-18C alkyl; and n is 10-14) This the product of ethoxylation of higher 10-18c alcohols.
Chistyakov, B.E., Polkovnichenko, I.T., Balakhonov, G.G. et al. Bul. 4/30.1.79. 21.2.77. as 461622 (3pp70)

MADL/ D18 85045W/52 =SU-645-

Tool for cutting parallel lines in leather - using adjustable cut blade assembly operating in slots

MADL J 30.10.74-DT-451528
*+P62 (05.02.79) *BE-831-904 C14b-15*

Tool for cutting parallel strips in raw hides comprises group of draw cutters arranged at regular intervals in rows placed one behind the other and fixed perpendicula to the direction in which the tool is drawn during use. The cutters are fixed in a blade carrier which is applie against a supporting plate; this has an extension to whi the handle is attached. A convex base-plate, below the blade carrier, is fitted with slots through which the cutters pass; they form a type of comb. An adjustable, knurled-head screw fixed between the arms control in depth of penetration of the blades into the upper surface of the leather, so that the very delicate layer of wool below the fleece will not be damaged.

The tool is simple and light to handle; the cuts can b made by progressive press. It is possible to pass rapic from one type of skin to another without adjusting the parallelism of the blades and the slots.
Madl, J., Shober, H. Bul. 5/5.2.79. 30.7.75. as 1622 (4pp)

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL ; TOILET PREPARATIONS

IED/ ★ D21 77316B/43 ★DL-136-954
rodn. of Maddrell's salt by heating sodium phosphate - using ri:calcium phosphate as catalyst, used as polish in tooth paste
LIEDLOFF B 07.06.78-DL-205830
E34 (08.08.79) C01b-25/44

rodn. of Maddrell's salt (I) is carried out by heating mo- osodium monophosphate (II) and/or disodium diphosphate III) or a soln. of (II) and/or (III). The improvement comp -rises adding 0.5-8.0 wt.% of finely crystalline tricalcium phosphate (IV) to the starting material or soln. before heating. Heating is pref. carried out in a rotary kiln, irst at 150-240°C (esp. 160-200°C) for 10-180 (esp. 40-80) min and then at 250-420°C (esp. 300-380°C) for 10-120 (esp. 30-90) min.

The process gives a product contg. < 2.0 wt.% Na trim -etaphosphate and no chelating cpds. The use of expensive N-contg. bases is avoided (cf. DL123593) and IV acts not only as a catalyst but as a Ca source in toothpaste. 7.6.78 as 205830(7pp367)

JAPS D21 69281A/39 =DS 2811-500
Aq. dental embedding compsn. contg. PVA - together with metal cpd., resin pre-condensate, and filler, giving smooth, dimensionally stable denture
JAPAN SYNTHETIC RUBBER 18.03.77-JA-029994
*A96 +P32 (A14) (18.10.79) *DT2811-500 C08k-03/10 C08l-29/04 C08l-61 +A61k-05/**

Hydraulic embedding material for dental purposes are produced by mixing in any order an aq. polyvinyl alcohol (PVA) soln., a water soluble metal cpd., a water soluble thermosetting resin precondensate and fillers. The material is pref. produced by a) mixing the PVA soln. with an $AlCl_3$ soln. and part of the fillers, b) mixing an aq. soln. of the precondensate with the rest of the filler and combining a) and b).

A 5-50 wt.% soln. of PVA, having a degree of saponification of 70-100% and a degree of polymerisation of 200-2000 is pref. used. The metal cpd. is esp. Cu acetate, $AlCl3$, $Al_2(SO4)_3$, $SnCl4$, $Ti(SO4)_2$, $MoO3$, $FeCl3$ or K_2Cr_2O7 and is used at a rate of 1 metal atom per 10-500 OH gps. of the PVA. The precondensate is pref. a melamine/, urea/ or phenol/HCOH condensate and is used at a rate of 10-500 pts. wt. per 100 pts. wt. PVA. 200-500 pts. wt. fillers, esp. (mixt. of) SiO_2, silicic acid or a silicate, are used per 100 pts. wt. PVA.

A relatively inexpensive dental material is obtd., free from the disadvantages of known materials. Dentures with good dimensional stability, good surface smoothness or good surface gloss can be produced. The material can be readily worked. The dentures can be produced at a higher rate than previously. 16.3.78 as 811500 (9pp260)

UYFL- ★ D21 77620B/43 ★DT 2910-335
Inorganic dental or surgical implant - has surface of silica-rich or silica rich-forming material for bonding to bone tissue (NL 9.10.79)
UNIV FLORIDA 05.04.78-US-893792
*L02 +P32 (18.10.79) A61c-08 A61f-01 A61k-05/**

Dental or surgical implant has a surface for bonding to the bone-tissue of a receiver. The bonding surface contains or consists of a biologically compatible glass, glass ceramic or ceramic material, (I) contg. $\geqslant$ 80 ($\geqslant$ 95) wt.% SiO_2 and having specific surface $\geqslant$ 80 m^2/g, porosity 10-50vol% and ave. pore dia. 20-300Å.

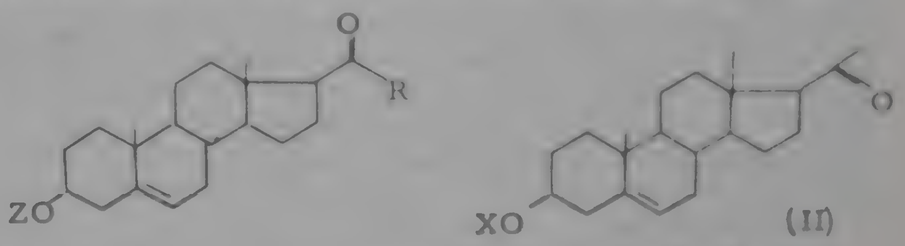
An implant bonding surface contg. or consisting of a biologically compatible inorganic material (II), other than SiO_2-based glass or glass ceramic and which contains 80wt.% SiO_2 is also claimed. In contact with aq. tri(hydroxymethyl)aminomethane buffer at pH 7.2, 37°C (II) can generate within 10 days, an SiO_2-rich porous surface-layer having specific surface > 80 m^2/g.

Strong chemical bonds with bone tissue can be formed in vivo 16.3.79 as 910335 (26pp200)

LCHO ★ D21 77713B/43 ★FR 2414-516
Cholestene- and cholestadiene-20-one(s) - are intermediates for cholesterol and iso:cholesterol derivs., useful in skin lotions
CHOAY SA 13.01.78-FR-000956
B01 (14.09.79) C07j-09 C07j-17

Cholestene- and cholestadiene-2-ones of formula (I) are new.

(I)



(II)

(where Z = H, tetrahydropyranyl, 1-10C alkyl or 1-22C acyl; R = $CH_2CH(OH)R$ or $-CH=CH-R$; R=H or 1-6C alkyl).

(I) are prepd. by reacting (II) with RCHO to give (I), (R= $-CH_2CH(OH)R$) (where X=H, or a gp. protecting this hydroxy gp.

This reaction is effected in the presence of a strong reducing base, such as alkali metal alkyl amide, at a temp. which is sufficiently low to allow formation of the 20,21-kinetic enol of pregnenolone rather than the thermodynamically-stable (17,20) enol. The 3 β-hydroxy group may be regenerated, if required. (I; R = $-CH=CH-R$) is prepared from (I; R = $CH_2CH(OH)R$) by means of a dehydrating agent, esp. p-toluene sulphonic acid. 13.1.78 as 000956 (13pp520)

GILL ★ D21 77755B/43 ★GB 2018-590
Anhydrous, non-aerosol antiperspirant compsns. - contg. antiperspirant, hydrophobic volatile cyclic silicone, and hydrophobic suspending agent
GILLETTE CO 14.04.78-US-896578
A96 (A26) (24.10.79) A61k-07/32

Anhydrous, non-aerosol natiperspirant compsn. consists of a powdered antiperspirant agent (I) suspended in a liq. hydrophobic volatile cyclic silicone (II) vehicle which also contains a hydrophobic suspending agent (III). The compsn. contains < 4% of other hydrophobic liqs. which are less volatile than (II).

Pref. (II) are of formula $(\!-Si(R)_2-O\!-)_n$ (R=1-3C alkyl, pref. Me; n = 3-10, pref. 3-7; and unsatisfied valences are joined to give cyclic structure), and are suitably 'UCC Y-7207' (RTM), 'SWS-03314' (RTM), or 'Dow Corning 344' (RTM). Compsns. contain 60-95%, pref. 60-90% by wt. of (II).

Compsns. may be applied from dispensers such as 'roll-ons' or pumps, and are as effective as H_2O-based compsns. but have much better aesthetic props. (i.e. do not give a wet, sticky feeling on application. 27.3.79. as 010679 (6pp478)

SNKM ★ D21 77771B/43 ★GB 2018-666
Tooth crown mfr. using photocurable resin compsn. - comprising a polymerisable acrylate or methacrylate and light sensitiser and/or filler
SANKIN IND CO LTD 11.04.78-JA-042889
P32 (24.10.79) A61c-13

A tooth crown is made by applying a photocuring resin compsn. comprising a polymerisable methacrylate and/or acrylate; together with a light sensitiser and/or filler to a plaster mould or a metallic frame in the case of a front crown while keeping the crown form, and curing the compsn. by uniform exposure to actinic radiation.

A high mechanical strength crown with good wear and discolouration resistance and good adaptability to the oral cavity is obtd. easily and efficiently. The sensitiser is pref. benzyl ether or benzoin methyl, ethyl, propyl or butyl ether. 10.4.79. as 012495 (6pp558).

LIOY ★ D21 78147B/43 ★J5 4119-036
Human skin treatment compsn. - comprises higher branched hydrocarbon, polysiloxane, water soluble high mol. wt. cpd., poly:hydroxy cpd. and water
LION FAT & OIL KK 09.03.78-JA-026918
A96 E17 (A18 A26) (14.09.79) A61k-07

A toilet material for human skin consists of (A) a branched chain hydrocarbon having 14 - 50C; (B) a polysiloxane of formula $[RR_1 SiO]_n$ (I); (C) a water soluble compound having a mol. weight of 500 - 5,000,000, (D) a cpd. having 2 - 6 hydroxyl groups and 2 - 6C atoms and (E) water. In (I) R and R' are 1-4C alkyl or phenyl and n is an integer of 3 to 1,000, indicating polymerisation degree.

(A) is chosen from squalane(2.6.10.15.19.23-hexamethyltetracosane), (alpha)-olefine, olefinic oligomer, isobutylene or oligomer of isoprene. (C) is chosen from polyvinyl alcohol, polyvinyl-pyrrolidone, polyethylene-glycol, carboxy-vinyl-polymer, water soluble cellulose deriv. or water soluble starch deriv. (D)is chosen from ethylene-glycol, propyleneglycol, glycerine, glycerine or 1.4-butylene-glycol, Further, the composition contains a perfume agent.

The toilet material can cure coarse surface of the human skin and gives a comfortable smoothness to the human skin. 9.3.78 as 026918 (5pp15).

LIOC ★ D21 78383B/43 ★J5 4119-992
Reagent for determining peri-dental disease relating bacteria - comprises unlabelled antiserum of intra-oral Gram negative bacteria and fluorescentyl-labelled antibody
LION DENTIFRICE KK 10.03.78-JA-027402
B04 J04 R16 (D16) (18.09.79) G01n-33/16

The reagent consists of (a) unlabelled antiserum of intraoral Gram-negative bacteria to be reacted with a sample contg. intraoral Gram-negative bacteria and (b) fluoroescently-labelled antibody to be reacted with the reaction prod. of the sample with the antiserum obtd. by immunising other animal by γ-globulin of the same species as that of the antiserum, extracting the antibody, labelling it and using the reagent to determine intraoral Gram-negative bacteria by indirect fluorescent antibody technique.

The detection and determination of intraoral Gram-negative bacteria(Bacteroides melaninogenicus, Capnocytophaga, Eikenella corrodens, Fusobacterium nucleatum, etc.) can be rapidly, efficiently, simply, surely, and precisely carried out at low cost.

The fluorescently-labelled antibody is reacted with the reaction prod. of a sample with the unlabelled antiserum, and the resulting fluorescent reaction product is observed by a fluorescent microscope to detect and determine antigen. 10.3.78 as 027402 (6pp50).

JOHJ ★ D21 788968/43 ★US 4170-82
Artificial porcelain teeth having fluorescence matching natur
teeth - contg. small amts. of terbium and cerium salts
JOHNSON & JOHNSON 13.02.78-US-877588 (27.01.77-U
763450)
E33 P32 (16.10.79) A61c-13

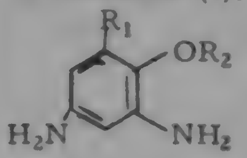
Artificial porcelain teeth contain 0.05-2.5 (0.5-1.2) wt% Tb_2O_3 and 0.02-1.0 (0.04-0.08) wt% CeO_2 with the provis that when the CeO_2 content is 0.01-0.04 wt% the Tb_2O_3 content > 0.1 wt% and when 0.05-0.1 wt% Tb_2O_3 is present, the compsn. contains > 0.04 wt% CeO_2.Nitrates carbonates and hydroxides may also be used.

Use of Tb and Ce oxides is pref. to oxides of U and also gives superior fluorescence. 13.2.78 as 877588 (3pp

HENK D21 02007A/02 =US 4171-2
(4)-Alkoxy-(5)-alkyl (meta)-phenylene-diamines - useful as oxid
couplers for hair dyes
HENKEL KG AUF AKTIEN 28.06.76-DT-628999
*E14 (16.10.79) *BE-856-145 A61k-07/13 C07c-93/14 +C07 91/42*

An aq. developer coupler type compsn. for the dyeing of hair is prepd. contg. 0.2-5 wt% of a developer coupler combination, 0-30 wt% of a surfactant, 0-25 wt% of a thickener, and a balance of water.

The coupler is a 3,5-diamino 2-substd. alkyl benzene of formula (I), where R_1 is a straight- or branched-chain 1-8C alkyl, and R_2 is a straight- o branched chain 1-8C alkyl or opt. substd. Ph, contg. 1-4C alkyl or halogen as substit. The coupler als contains a water-soluble addition sa of (I). The compsn. contains a conventional developer suc that the coupler and developer are in molar range of 2:1-1:2.



(I)

The compsn. is readily oxidised by atmos. O_2 at room temp. without a catalyst, and provides intense, bright an fast dyeings in a short time. 20.6.77 as 807972 (6pp931)

See Also

D22 GB 1554553 D22 GB 1554554 D22 GB 1554555
D22 US 4171452

D22: BANDAGES; DRESSINGS

SCNG D22 56183S/35 =DS 2008-010
Bone and teeth substitutes
SCHNEIDER & CO 20.02.70-DT-008010
*E33 P32 (18.10.79) *DT2008-010 A61f-01 +A61c-08*

A dental implant comprise a core of a material such as metal, ceramic or resin, hot sprayed with a coating of a eutectoid of tricalcium phosphate and tetracalcium phosphate. Bone ash may be used as the eutectoid. The coating is pref. annealed at 1000°C in a steam atmos. 20.2.70 as 008010 (2pp068)

ALKU D22 88442Y/50 =DS 2624-289
Bodies with controlled gas emission - e.g. of perfume, deodorant or insecticide, from unsaturated polyester compsn. contg. hollow microspheres
AKZO NV 31.05.76-DT-624289
*A97 C03 (A23) (18.10.79) *DT2624-289 C08f-299/04 C08k-07/22 C08l-67/06 +A01n-17/08*

Prepn. of porous mouldings comprises copolymerisation of unsaturated polyesters with compatible vinyl cpds. in the presence of an easily volatilised solvent; opt. reinforcing agents; and one or more solid fillers, esp. microporous spherules of inorganic or organic material, (0.4-4 wt. %). Prefd. fillers are glass or vinylidene dichloride/acrylonitrile copolymer. The prods. have large pore volumes esp. for gas absorption. 31.5.76 as 624289 (4pp047

ZHKO- ★ D22 77471B/43 ★DS 2832-27
Hospital appliances disinfection - by heating moist air from ho
rinsing chamber in closed circuit for steam disinfection
ZK-HOSPITAL GMBH 22.07.78-DT-832279
P33 P34 (18.10.79) A61g-09 A61l-01 A61l-03

Sanitary appliances for hospitals, such as bed pans and urine bottles are rinsed and disinfected by using the air from the rinsing compartment which has already been heated by hot water flushing and is saturated with moisture. This is heated in a closed circuit to over 90°C so that it achieves an adequate disinfection after a short time. Additional evaporation of rinsing water and further heating of the steam in the closed circuit can shorten the required time still further.

This system requires no chemicals at all; it operates very economically and causes no pollution to the environment. It functions reliably and rapidly. 22.7.78 as 83227
(4pp39)

CHU ★ D22 77530B/43 ★DT 2815-400
Mixt. yielding antimicrobial aq. percarboxylic acid solns. - contains hydrogen peroxide donor and odourless carboxylic acid anhydride
SCHULKE & MAYR GMBH 10.04.78-DT-815400 (00.00.76-DT-655599)
E17 P34 (E36) (18.10.79) A61l-13

A storage-stable mixt. is described for yielding an antimicrobially active soln. when dissolved in water. The mixt. contains (a) an H_2O_2-donor, (I) and $\geqslant 1$ odourless or weakly-smelling carboxylic acid anhydride, (II), melting at $\geqslant 40°C$, and opt. (b) inert fillers. In water (II) dissolve to weakly-smelling carboxylic acids and are converted by H_2O_2 into weakly-smelling water-soluble percarboxylic acids having a high anti-microbial activity.

The disinfectant solns. obtd. can be used in the food industry, in disinfecting medical and dental instruments, and for cleaning articles in hospitals. The addn. of a mixt. of (I) and (II) to water, in place of the individual components, improves dissolution and increases percarboxylic acid yield. 10. 4. 78 as 815400 Add to 2655599 (15pp200)

CELA- ★ D22 77607B/43 ★DT 2825-028
Throwaway baby's napkin - folded from sandwich layer to front and rear cups with narrower joint link
CELATOSE SA 08.03.78-FR-007219
P21 (18.10.79) A41b-13/04

A baby's napkin consists of an inner porous layer and an outer impermeable layer between which an absorbent layer is enclosed. By folding a rectangular piece of this material and using adhesive at certain points, this can be shaped into a cup-shaped part to fit around the baby's back, a similar cup-shaped part to fit around the front, and a narrow centre part to join the two. Adhesive strips can be used to keep the napkin closed once it has been wrapped around the baby, with enough space on the sides for the legs, where the material selvedge is reinforced by an elastic strip.

Such a throwaway napkin can be produced at low costs, yet fits the shape of a baby very snugly. 7. 6. 78 as 825028 (19pp39)

INTE- ★ D22 77638B/43 ★DT 2913-510
Elastic blood-vessel resistant to piercing and collapse by kinking - is helically corrugated plastics tube with polyester knitted sheathing and coated with two silicone rubber layers
INTERMEDICAT GMBH 06.04.78-CH-003718
A96 P32 (A23 A26) (18.10.79) A61f-01

Mfr. of elastic kink- and pierce-resistant, blood-vessels of physiologically compatible plastics is claimed, where their inner dias. varies from 2- 30 mm, the wall thickness from 2/100-4/100 mm and which have external helical corrugations.

A tube, shaped as described, is sheathed with a protective or separating layer pref. of a collagen fabric, then with a smooth plastics filament or a wire, follow the spirally corrugations which is removed after drying to fix the spirally configuration. The sepn. layer is then repeatedly coated with a silicone rubber soln. until a wall thickness of 0.5 mm is achieved, whereupon the tube is encased in polyester yarn tubular knit fabric which is in turn fixed with a spirally constricting filament or wire.

The thus-treated article immersed first in organic solvent that swells the silicone, and then in silicone rubber soln. until a 2nd silicone coating over the polyester casing is 0.5 mm thick so that the final prosthetic blood-vessel has 1 mm thick walls. 4. 4. 79 as 913510 (10pp267)

KATA- ★ D22 77643B/43 ★DT 2913-593
Microbicide for industrial cooling water and paper pulp - contg. 4,5-di:chloro-1,2-dithiol-3-one, a polyoxyethylene, polypropylene ethylene di:amide or alkylolamide surfactant and hydrophilic solven
KATAYAMA CHEM WKS C (YOSH) 11.04.78-JA-043697 (05.04.78-JA-040620)
A97 C03 F09 P34 (A25 D15) (18.10.79) A61l-13 C02b-03/06 C23f-14/02 D21c-11

A stable microbicide for industrial use comprises (I) 3-20 pts. wt. 4,5-dichloro-1,2-dithio-3-one as active ingredient (II) $\geqslant 0.2$ pts. wt. (per 10 pts. wt. (I)) of a surfactant, chosen from N, N, N', N'-polyoxyethylene polypropylene ethylenediamine and a nonionic alkylolamide surfactant, and (III) a hydrophilic organic solvent to give 100 pts. wt. of the formulation. The resulting formulation is anhydrous.

The microbicide is esp. suitable for controlling slime in paper broth and paper mfr., and in industrial water cooling systems. The microbicide can be used in general, in water systems. The active ingredient is satisfactorily dispersed, for full bactericidal and fungicidal effect, and because the amt. surfactant needed is very small, there are no difficulties as a result of foaming. In addition, the microbicide does not affect the properties of the paper. 4. 4. 79 as 913593 (20pp1401)

NIRA ★ D22 77682B/43 ★DT 2914-822
Wound healing material - comprising coagulation factor XIII fixed to a structure e.g. gelatin, collagen, poly:glycolic acid or poly:lactic acid
UNITIKA KK 24.10.78-JA-131116 (12.04.78-JA-043666)
A96 B04 P34 (18.10.79) A61k-35/14 A61l-15/04

New material for the healing of wounds comprises a structure to which is fixed blood coagulation factor XIII. Pref. materials have both factor XIII and thrombin fixed to the structure, the thrombin and factor XIII pref. being in amts. sufficient to promote the formulation of stabilised fibrin. Calcium ions and a pharmaceutically active substance (pref. antiplasmins, antibiotics, antivirals, sulphonamides or anti-infective agents) are also advantageously fixed to the structure.

Provides long-acting preparations which utilize the effectiveness of factor XIII in stabilising fibrin formed in the wound. Stabilisation of fibrin prevents its breakdown resulting in renewed bleeding and retardation of wound healing. 11. 4. 79 as 914822 (25pp280)

PARA- ★ D22 77693B/43 ★FR 2414-337
Bactericidal liq. spray to disinfect interior of buildings - with liq. droplets pumped into atmos. or air conditioning duct
PARAGERM FRANCE SA 13.01.78-FR-000865
P34 P42 (14.09.79) A61l-09/04 B05b-09/04

The equipment comprises a power driven hydraulic pump drawing liq. from a container. The pump delivers liq. via a pipe terminating with a directional nozzle discharging tiny droplets of liq. into the atmos. The nozzle can be free for manipulation by an operator or fixed to delivery always in the same position. A fixed nozzle can be installed inside air conditioning ducting to deliver downstream into air current.

When located to deliver into an air conditioning duct or open atmos., the pump is pref. operated intermittently by a programmed timer. For manual use, the nozzle can be fitted at the end of a pipe lance so that walls and ceilings can be directly sprayed.

The spray is liq. droplets rather than an air/liq. emulsion. Consequently, a compact unit can delivery liq. at a faster rate than previous equipment. 13. 1. 78 as 000865 (11pp448)

MINN D22 20315Y/12 =GB 1554-441
Indicator for concn. of vapour at phase boundary - e.g. for indication of moisture in soil in plant pots
MINNESOTA MINING CO 13.02.76-US-658114 (30.06.75-US-591329)
*A97 J04 R16 +P13 P34 R19 (24.10.79) *DT2629-690 G01n-13*

Appts. for indicating the concn. of a vapour at a phase intefface comprises a sensor enclosed in a differentially vapour permeable, liq.-impermeable envelope, for comparing the concn. of a selected vapour component in a sample from the phase interface with a standard which is representative of a parametric concn. of the vapour in the sample sensor pref. includes indicating component comprising a mixt. of Co chloride and PVP-vinyl acetate copolymer.

Sensor is capable of providing an indication of the concn. relative to the standard. Appts. further comprises means for presenting the sample from a phase interface to the sensor. Pref. the envelope comprises a base adapted to rest at the interface, and a cover defining a sealed, closely conforming envelope contg. the sensor. Base has a water vapour transmission rate $\geqslant 50\%$ greater than that of the cover, the cover permitting observation of the sensor.

Used to indicate unwanted or dangerous decomposition in food prods. by detecting the vapours issuing from them. 29.6.76. as 027054 (10pp936)

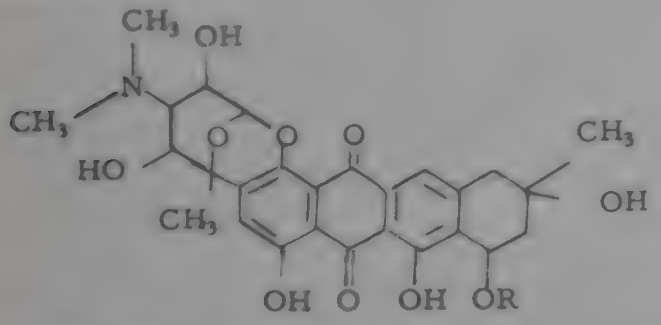
UPJO D22 43927A/24 =GB 1554-517

Antibiotic 7-O-alkyl-nogarol cpds., some with antitumour activity - useful in control of Bacillus subtilis and Lactobacillus casei, to silkworm infection and prevent fish odour in storage crates

UPJOHN CO 09.12.76-US-748716

*B02 (24.10.79) *US4086-245 A61k-31/33 C07d-319 C07d-493/08 + C07d-311*

Novel-7-O-alkyl(nogarols are of formula (I) or their acid addn. salts or 2-18C acylates. The acylate is derived from a hydrocarbon carboxylic acid opt. substd. by halogen, NO_2, NH_2, CN or 1-4C alkoxy. R is 1-4C alkyl.



(I)

Specifically claimed are 7-O-methylnogarol and its tartrate. Cpds. are pref. prepd. by reacting nogamycin with an alkanol.

Cpds. are used to protect silkworms from Bacillus subtilis attack or to prevent odour in fish and fish crates caused by B. subtilis. 3.11.77. as 045679 (4pp974)

SMIN D22 90931X/49 =GB 1554-553

Bandage stiffener for splints - contg. calcium fluoro aluminium silicate glass and polycarboxylic acid or polymeric precursor BE161176)

SMITH & NEPHEW RES 15.08.75-GB-034128 (13.05.75-GB-020196)

*A96 L01 P32 + P34 (D21) (24.10.79) *DT2620-955 C08k-03/40*

A curable compsn. comprises a particulate Ca fluoroaluminosilicate glass consisting of 25-35 wt.% Si (as silica), 30-40 wt.% Al (as alumina), 20-35 wt.% Ca (as calcia and $\leqslant$9 wt.% Fe, together with a poly(carboxylic acid) or its precursor as crosslinkable material. The glass is mfd. by melting a batch of constituents at 1400-1600°C, the F being supplied by Ca and/or Al fluoride, and the batch also contg. NaOH, Na_2CO_3, boric acid and borax. Pref. the polymer is a copolymer of acrylic acid and acrylamide or acrylonitrile, etc.

The compsn. is used in a splinting bandage, but can also be used in dental and surgical cements. The low F content gives reduced loss on fusion, reducing corrosion, pollution and health hazards. 15.7.76. (23pp976)

SMIN D22 90931X/49 =GB 1554-554

Bandage stiffener for splints - contg. calcium fluoro aluminium silicate glass and polycarboxylic acid or polymeric precursor BE161176)

SMITH & NEPHEW RES 15.08.75-GB-034128 (13.05.75-GB-020197)

*A96 L01 P32 + P34 (D21) (24.10.79) *DT2620-955 A61f-13/04*

A curable compsn. comprises an admixt. of particulate Ca fluoroaluminosilicate glass, consisting of 25-35 wt.% Si (as silica), 30-40 wt.% Al (as alumina), 20-35 wt.% Ca (as calcia) and $\leqslant$9 wt.% F; and solid, particulate poly(carboxylic acid) or its precursor. The whole mixt. is in association with a porous flexible carrier.

The compsn. is esp. used for splinting bandages. Pref. the polymer is a copolymer of acrylic acid and acrylamide or acrylonitrile, of maleic acid and methyl vinyl ether or of maleic anhydride and ethylene. The low F content gives a lower loss on fusion, reducing corrosion, pollution and health hazards. The bandages are dipped in water, applied to the patient while wet and then dried. 15.7.76. Div. ex. 1554553 (24pp976)

PIHL D22 90931X/49 =GB 1554-

Bandage stiffener for splints - contg. calcium fluoro alumini silicate glass and polycarboxylic acid or polymeric precu BE161176)

PILKINGTON BROS LTD (SMIN) 15.08.75-GB-034128 (13.05. GB-020197)

*A96 L01 P32 + P34 (D21) (24.10.79) *DT2620-955 C03c-03/0*

A Ca fluoroaluminosilicate glass consists of 25-35 wt.% Si (calc. as silica), 30-40 wt.% Al (calc. as alumina), 25-35 wt.% Ca (Calc. as calcia) and $\leqslant$9 wt.% F. The gl is mfd. by melting a batch of constituents at 1400-1600° the F being supplied by Ca and/or Al fluoride, and the batch also contg. NaOH, Na_2CO_3, boric acid and/or bor

The glass can be used in curable compsns. and in spli ting bandages and similar sheets of material. The low F content gives lower loss on fusion, reducing corrosion, pollution, health hazards, etc. 15.7.76. Div.ex. 155455 (21pp976)

WILS/ ★ D22 77746B/43 ★GB 1554-

Disinfectant compsn. contg. quat. ammonium cpd. - with humect and emollient for anti-mastitis cow teat dip use

WILSON E S 07.04.77-GB-014787

C03 (24.10.79) A61k-31/14

Aq. disinfectant compsn. comprises 20-500 p.p.m. qua bactericidal ammonium cpd. (I), 2.5-30% humectant (II) and 0.25-20% emollient (III).

Compsn. is useful as a teat dip for controlling masti in cows. Teat cracking is avoided because (II) prevents complete evapn. of the compsn. and (III) counteracts emulsification of skin fats by (I).

Pref. 100-200 p.p.m. (I) is used, and (I) is suitably a mixt. of equal parts of benzalkonium chloride, octyldecyldimethylammonium chloride, dioctyldimethylammo ium chloride and didecyldimethylammonium chloride. 7.4.77. as 014787 (3pp1248)

ALKU D22 42467A/24 =GB 1554-

Absorbent cellulose fibres for nappies, tampons etc. - contains of acrylic and/or methacrylic acid copolymer with methacrylate acrylate or e.g. unsatd. di:carboxylic acid (NL 5.6.78)

AKZO NV 01.12.76-US-746539

*A11 F01 + P34 (A14 A96) (24.10.79) *DT2751-822 C08l-01 + C08l-33/02*

A fluid-absorbent cellulose fibre is prepd. contg. an alkali metal- or ammonium salt of a polymer having repeating units derived from an aliphatic acrylate or methacrylate ester, and having repeating units derived from acrylic or methacrylic acid, their anhydrides or a polymer of acrylamidoalkyl sulphonic acid.

Pref. the salt used is a copolymer or terpolymer of acrylic and methacrylic acids and their aliphatic esters; a polymer of both the copolymer or terpolymer also contg. units derived from an unsatd. aliphatic dicarboxylic acid; a polymer of the copolymer, terpolymer or the dicarboxylic acid substd. polymer, also cont units derived from an acryloamidoalkyl sulphonic acid o as unsatd. phosphorous acid; or a polymer of an acryloamidoalkyl sulphonic acid and an aliphatic ester of acryl or methacrylic acid.

The prod. has improved fluid absorbency and fluid retention properties. 1.12.77. as 050096 Add to 1529493 (7pp931)

DAUC ★ D22 77954B/43 ★J5 4117-5

Hydrous vinyl acetate resin prodn. for poultice - by dissolving vi acetate resin of specified polymerisation degree in propyle glycol and contacting with water

DAIICHI SEIYAKU KK (WATA) 03.03.78-JA-024180

A96 B07 (12.09.79) A61k-47 C08j-03/20 C08l-31/04

Vinyl acetate resin of polymerisation degree 200 - 400 is dissolved in propylene glycol and then contacted with water to give hydrous vinyl acetate resin. The resulting hydrous vinyl acetate resin can be used as an ingredient of poultice medicinal compsn.. The poultice compsn. ha good contact with skin, and maintains wet condition for a long period of time and shows no irritating or other undesirable effects on the skin.

The poultice compsn. comprises the hydrous vinyl acetate resin, gelating gel, natural polymer substance such as starch, natural polysaccharides such as xanthan gum, gum alabicum, etc., polyvinyl alcohol, polyacrylic acid salt, methyl cellulose, carboxymethyl cellulose, glycerine, propylene glycol, sorbitol, kaolin, zinc white, titanium oxide, etc., 3.3.78 as 24180 (3pp).

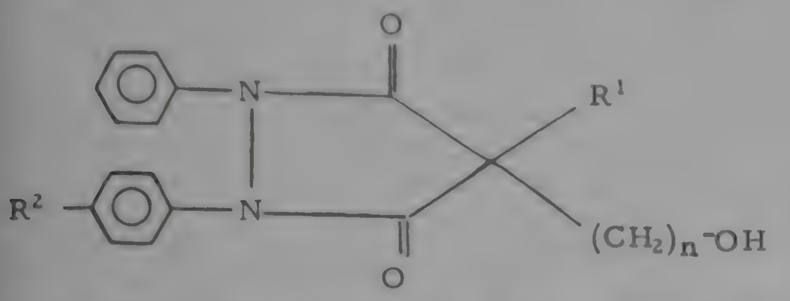
NIRA ★ D22 78117B/43 ★J5 4118-698

Anticoagulant for medical material e.g. catheters etc. - comprises polymeric material with bonded or deposited layer of pyrazolidine deriv. having alcoholic hydroxyl gp.

UNITIKA KK 07.03.78-JA-026289

A96 B07 E13 P34 (14.09.79) A61m-01/03

Anticoagulant medical material consists of polymeric material and a pyrazolidine deriv. having an alcoholic hydroxyl gp. of formula (I) bonded to or deposited on the polymeric material:



(I)

(where R^1 is opt. a substd. alkyl gp., R^2 is H or hydroxyl and n is an integer of 1 - 6).

The anticoagulant medical material is used in the prodn. of an artificial blood vessel, valve, heart and catheter. In an example 100 ml of an acetone soln. contg. 15 wt.% of 4-n-butyl-4-hydroxymethyl-1,2-diphenyl-3,5-dioxoprazolidine is circulated for 5 hours through a silicone tube 1 m in length, 3 mm in inner diameter and 5 mm in outer diameter to produce an anticoagulant silicone tube. 7.3.78 as 026289 (6pp86).

MITO ★ D22 78206B/43 ★J5 4119-371

Removing foul smells from sewage plant waste gas, etc. - by combination of catalytic and ozone treatments, effected simultaneously

MITSUBISHI HEAVY IND KK 10.03.78-JA-026628

E36 (17.09.79) B01d-53/34 B01j-27

A method of removing offensive odours emitting from sewage treatment plants, wastes incinerators, etc., using both an ozone oxidn. method and a catalytic treatment method. A gas contg. offensively odorous substances is first washed with water or an acid and then introduced into a catalytic treatment device in which catalyst layers of a carbonaceous material-supported metal oxide, e.g. granular or powder activated carbon or graphite, carbon fibre, etc., which supports oxide of vanadium, chromium, manganese, iron, cobalt, nickel, copper, silver and/or zinc, are arranged in series and ozone injection portions are provided in the front of each of the plural catalyst layers. The decomposition of odorous substances by oxidation and the decomposition of excess ozone take place concurrently.

This method is capable of removing completely high concns. of odorous substances present in gas and also of decomposing completely excess ozone at ordinary temps. and at lower cost. 10.3.78 as 026628 (7pp117).

NAKA/ ★ D22 78421B/43 ★J5 4120-279

Treating malodorous material - by steam distn. or boiling under reduced pressure, followed by cooling and liquefaction

NAKAYAMA T 13.03.78-JA-027620

J01 (18.09.79) B01d-53/34

Malodorous component is evaporated and sepd. from the material by steam distn. or boiling in a vessel, the pressure of which is reduced by a jet-type vacuum pump (using a recycling liq.). The evapn. malodorous component is cooled (after rectification and condensation) and liquefied. Residual malodorous component which is left in non-condensed gas is absorbed in the recycling liq. of the vacuum pump.

Used to treat malodorous solids (either dried or wet) or mud (paste, fluid, or unhomogenised liq. contg. large solid particles). 13.3.78 as 027620 (8pp55).

FMCC D22 79979U/52 = J7 9030-236

Liquid absorbing fibrous mass - eg non-woven cushion

FMC CORP 05.06.72-US-259944

*A96 F04 P34 + P32 (28.09.79) *NL7307-655 A61f-13/20 D01f-02*

Mass, which strongly absorbs liq. esp. body liqs. consists of gelled fibres consisting of a matrix material or regenerated cellulose contg. a homogeneously dispersed ammonium or alkali metal salt of polyacrylic acid. The matrix material contains 5-35 wt.% salt, based on cellulose. 4.6.73 as 062056 (clg.5.6.72-US-259944) A61f-13/20; D01f-2/00 (28.9.79) FMC CORP. (3pp) (J49061988)

KAOS D22 29066A/16 = J7 9030-710

Crosslinked alkali acrylate polymer prepn. with high water-absorption - by polymerising in conc. water-in-oil suspension

KAO SOAP KK 07.10.76-JA-120591

*A14 (A96) (02.10.79) *DT2744-727 C08f-02/32 C08f-20/06*

Prepn. of self-crosslinked alkali acrylate polymers in powder form, with water-absorption capacity of ≥400%, comprises polymerising an aq. alkali acrylate soln. with conc. of ≥40 wt.% contg. a water-soluble initiator, as a dispersion in aliphatic hydrocarbon solvent. Polymerisation is in presence of a sorbitan fatty acid ester with HLB valve 3-6, and in absence of crosslinking agent.

The polymers are used as water-absorbent material, e.g. in sanitary towels and diapers. The insoluble crosslinked powder is non-toxic contg. no initiator and a food-grade surfactant. The particles are coated with surfactant which prevents agglomeration, and they can be dispersed in water and dried again without agglomerating. Thus the particles may be used in wet processes to form composite materials with paper or non-woven textiles. 7.10.76 as 120591 C08f-20/06; 2/32 (2.10.79) KAO SOAP KK (7pp) (J53046389)

MEDI- D22 27206V/15 =SU -644-831

Biological indicator prodn - conc. bacterial suspensions for testing sterilisation equipment

VEB KOMBINAT MEDIZI (STEI/) 05.01.73-DL-168087

*(30.01.79) *DL-104-100 C12k-01 +C12h-01/10*

Process of Parent Patent Cert 583157 is modified when > 1.5 ml. liq. are used per g. spore sample in the prodn. of the spore-sample suspension. The obtd. suspension is then filtered, to remove solid components then passed through a bacterial filter. The cells retained on the filter are then washed off using a small amt. of liq. the amt. necessary being calculated from the known conc. of cells in the unfiltered suspension. Alternatively the suspension is centrifuged and the recovered sediment diluted to required cell core. The suspension may be impregnated onto an absorbant rod and compsn. dried to give finished prod. This process gives an indicator contg. the required no. of cells (about 10^6) in only 0.1 ml. suspension; the parent patent gave a filtrate contg. only about 6000 cells/ml. Steiger, E. Bul. 4/30.1.79. 4.1.74. as 982971 Add to 583157 (1pp)

RAGS/ ★ D22 78938B/43 ★US 4171-092

Poultry houses fumigation system - compressed air connections to distribution loop nozzles arranged to give constant atomisation pressure

RAGSDALE C 16.12.77-US-861174

C03 P42 (16.10.79) B05b-01/14

Fumigation system comprises a valved compressed air line with a valve-control timer and a distribution line formed as a loop connected at both ends with the main line. Nozzles connected by conduit to the distribution line each have a pesticide container connected to them.

The length of conduits between distribution line and nozzles is inversely proportional to the shortest distance along the distribution line from the main line, so that the nozzles are suppled with pesticide atomised by the compressed air under contant pressure. Each nozzle pref. has four discharge orifices opening in different directions. 16.12.77 as 861174 (6pp1358)

HESS/ D22 57237U/39 =US 4171-226

Infected article disposal - for eg disposable syringes scalpels etc

HESSELGREN S G (LNDR) 09.03.72-SW-002973

*P34 (16.10.79) *NL7302-638 +C04b-11*

Risk waste, disposable medical and dental instruments cap

-able of causing injury after their initial use, are destroyed by immersing them directly after use in an aq. medium contg. a microbiocidal agent in such concn. and time sufficient to decontaminate the instruments.

The medium used is contained in a portable disposable receptacle. A solidified component of gypsum is added to the receptacle to effect the formation of a solid mass, which embeds the instruments, rendering them non-injurious and permanently unfit for further use. The receptacle and its contents are then disposed of.

The process is esp. used to dispose of tampons, swabs and disposable instruments such as hypodermic needles and syringes. 29.6.77 as 811435 (+20.2.73, 4.8.75 - US-333797, 601632) (2pp931)

COMP D22 27483W/17 #US 4171-265

Mineral fibre panel mfg plant with wet scrubber - for fumes repeatedly recycled through fibres being processed

SAINT-GOBAIN INDUSTRIES 10.10.73-FR-036169 (02.10.74-US-511500)

*F04 L01 + P43 (16.10.79) *BE-820-942 C02b-01/20*

Method of sepg heat hardenable constituents from an aq. soln. of thermohardenable fibre binder material comprises heating the material batchwise in a vessel having means to cool the vessel walls during heating to 150-240°C at a pressure of 6-40 bars. The treated material is then subjected to a sepn. process to remove the insolubilised constituents from the water in the batch.

The process is esp. suitable for treating waste soln. containg polymer binders generated during the prodn. of glass fibre prods coated with binder material. Efficient sepn. is obtained, thus reducing pollution, using a compact noise-free appts. 23.6.78 as 918600 Div. ex 4111672 (+5.2.76 - US - 655503) (35pp397)

EART- D22 72820A/41 =US 4171-340

Insecticidal and fungicidal fumigation without combustion - using indirect heat to volatilise active constituent without thermal decomposition

EARTH CHEMICAL CO 23.07.77-JA-U98584 (03.03.77-JA-U23475)

*C03 P14 + P34 (16.10.79) *BE-867-793 + A01m-13 A61l-01 A61l-03*

A fumigating appts. comprises a container with ≥2 compartments, ≥1 of which is provided with water-supplying means. This compartment contains an exothermic substance which evolves heat on contact with water. The other compartment contains a mixt. of an active ingredient and a blowing agent.

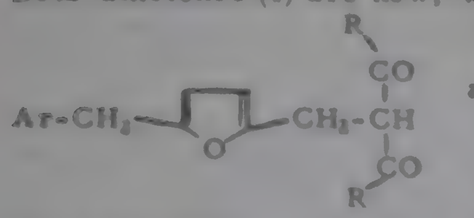
The blowing agent decomposes at 70-300°C to give off mainly N_2. The compartments are adjacent and the partitian transfers heat from the one compartment to the other. Pref. the exothermic substance is CaO; the active ingredient is an insecticide or a fungicide; and the blowing agent is azodicarbonamide. 2.3.78 as 882816 (+18.3.77 (2) 27.4.77; 13.5.77; 6.6.77 - JA - U33445/6; U54648; U61975; U74167 (38pp974)

STER D22 18014B/10 =US 4171-371

4-Benzyl or cyclohexyl or 2-furfuryl heptane-3,5 di:one derivs. - are antivirals used by topical application and as disinfectants

STERLING DRUG INC 06.09.77-US-830470 (10.10.78-US-949779)

*B05 C03 (B03 C02) (16.10.79) *BE-870-103 A61k-31/36 C07d-317/44*



Beta-diketones (I) are new, where Ar is phenyl substd. by 3,4-methylene dioxy or 1 or 2 of the substits. OH, 1-3C alkoxy and halo; and R is 1-4C alkyl esp. ethyl.

The cpds. are prepd. by reacting an arylaliphalic halide with an alkaki metal salt of a β-diketone. The cpds. are antiviral agents and are used to disinfect inanimate surfaces and (by topical application) in for medical and veterinary purposes. Concn. of (I) in a carrier (e.g. aq. or organic soln) is between 0.6 ppm and about 5 wt%. 10.10.78 as 949779 Div. ex 4153719 [illegible]

CIBA D22 82319X/44 =US 4171-

Metal complexes of substd. amino acids as co-monomers - polyesters polyamides polyureas and polyurethanes, as bioci and as polymer stabilisers

CIBA GEIGY CORP 14.04.75-CH-004719

*A41 C01 E12 (A60) (16.10.79) *NL7603-801 C08g-63/68*

New mouldable copolyester (I) has a relative viscosity o ≥.08 as measured on a soln. of 1g polymer in 100 ml mixt. comprising equal parts of phenol and symmetrical tetrachlorethane at 30°C.

(I) comprises the condens. prod. in a ∼1:1 molar rat of diacids (a) with diols (b) and (c) such that (I) comprise (all mol% values based on total polyester) (i) in diacid component (a) 50 mol% radicals derived from ≥1 (cyclo aliphatic, aromatic or heterocyclic aromatic dicarboxyl acid and (ii) in diol component (b) 47,5 -35 mol% radica derived from ≥1 (cyclo) aliphatic; cycloaliphatic-aliph ic, aromatic, aromatic-aliphatic or heterocyclic-alipha diols; and (c) 2.5-15 mol% radicals derived from ≥1 m tal complex of an N-hydroxyalkylated, branched α-amino carboxylic acid and a divalent metal cation, of formula $(X-C(R_1)H-C(R_2)H-NH-CR_3R_4-COO)_2M$.

Alternatively (I) comprises the condens. prod. in sto chiometric molar amts. of diacids (a) diols (c) and hydr -carboxylic acids, (d) so that the compsn. of (I) compri (a) 2.5-15 mol % radicals derived from ≥1 (cyclo) alip atic, cycloaliphatic-aliphatic, aromatic or aromatic-ali -tic hydroxycarboxylic acid. Radicals (a), (b), and (c) o (a), (c) and (d) are attached through ester linkages in a ndom distribution.

In the formula, X is OH, R_1 is H, 1-4C alkyl or phen R_2 is H, or when R_1 is 1-4C alkyl or phenyl, may also b 1-4C alkyl, or K, and R_2 together represent tetramethyl ne, R_3 and R_4 are each 1-4C alkyl, 5-6C cycloalkyl, or substd. phenyl or benzyl, or R_3 and R_4 together represe tetra- or pentamethylene, and m is divalent Cu, Zn, Co Ni cation.

The metal complexes can also be used as light stabili ed biocide etc. 16.3.78 as 887272 Div. ex 4093639 (+2.4. - US - 673238) (9pp936)

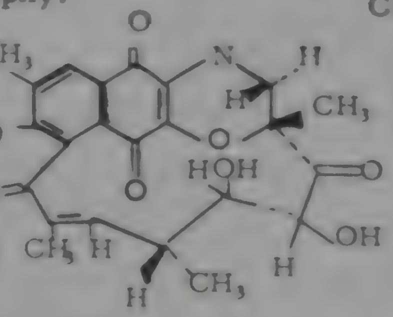
UPJO D22 84365A/47 =US 4171-4

Decomposition prods. of rubradirin antibiotics - useful antibacterials, UV stabilisers for polyolefin and pharmaceutic intermediates

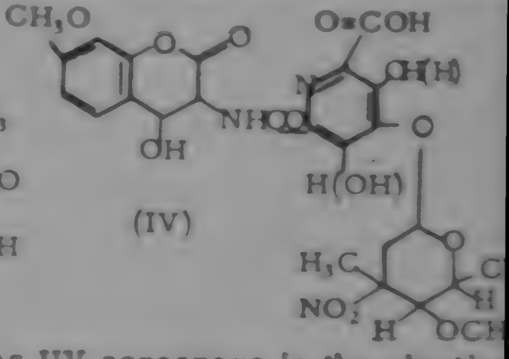
UPJOHN CO 06.02.78-US-874767 (05.05.77-US-793785)

*A60 B02 E13 + P34 (16.10.79) *DT2816-052 C07d-265/28 C07 309/10 C07d-491*

Prepn. of cpds. of formulae (III) and (IV) comprises bas hydrolysis of the antibiotic rubradirin to give a mixt. of (III) and (IV) followed by resolution of the mixt. by chron ography.



(III)



(IV)

(III) and (IV) can be used as UV screeners in the plastic industry eg they can be used in polyolefin resin formula ons to prevent degradation by sunlight. (III) is also acti against bacteium sarcina lutea and can be used to swab laboratory benches etc. 31.8.78 as 938686 Div. ex 41374 (8pp924)

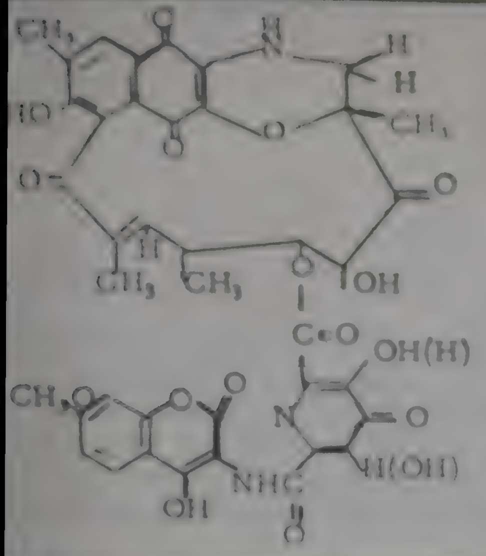
UPJO D22 84365A/47 =US 4171-4

Decomposition prods. of rubradirin antibiotics - useful antibacterials, UV stabilisers for polyolefin and pharmaceu intermediates

UPJOHN CO 06.02.78-US-874767 (05.05.77-US-793785)

*A60 B02 E13 + P34 (16.10.79) *DT2816-052 C07d-265/28*

Novel degradation prod. of antibiotic rubradirin is a cpd of formula (V). The acylates of (V) are described where



the acyl gp. consists of 2-28C hydrocarbon carboxylic acid acyl, including halo, nitro, hydroxy, amino, (thio) cyano, and lower alkoxy-substd. hydrocarbon carboxylic acid acyl.

Reaction of (V) with a satd. soln. of ammonia and methanol gives a novel cpd. useful as an UV screener in the plastics industry. Further similar cpds. have anti-bacterial activity. 31.8.78 as 938603 Div. ex 4137140 (7pp924)

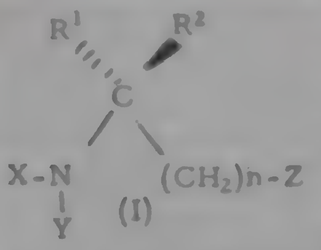
INTE- ★ D22 79063B/43 ★ US 4171-452

N-Chloro-amino ester derivs. of alkyl carboxylate(s) - useful as antibacterials and antifungals not inactivated by blood serum and incorporated e.g. in mouth-washes

INTERX RES CORP 16.05.77-US-797469 (14.11.75-US-632012)

B03 C02 E16 (D21) (16.10.79) C07c-69/02

New N-chloramino ester derivs of alkyl carboxylates are of formula (I) (where X and Y are each H or Cl provided that they are not both H; R^1 and R^2 are each 1-20 Cn- or branched alkyl, n is 1-8; and Z is $-OOCR^3$, in which R^3 is 1-6C n- or branched alkyl). One preferred cpd. is 2-N-chloroamino 2-methyl-1-propyl acetate.



(I)

The cpd. exhibit antibacterial and antifungal activity. They remain stable in the 'neat' state, remain active over varying pH conditions and are not inactivated as antibacterial agents by denaturants such as blood serum, and are biodegraded into non-toxic products. The cpds. may be included in e.g. mouthwashes, shampoos, soaps and cosmetic bases.

US4036843 claimed antibacterial and antifungal chloro-aminoesters of pyridinecarboxylates. 16.5.77 as 797469 Div. ex 4036843 (10pp990)

D23: OILS; FATS; WAXES

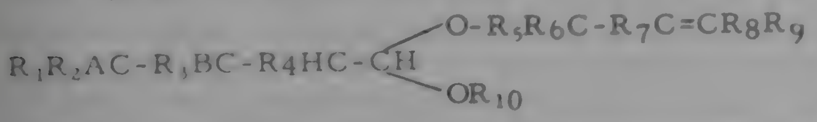
TEIJ D23 05742W/04 =DS 2439-140

Lgg chain allyl acetal cpds. - giving unsatd. aldehydes, such as citral, on heating

TEIJIN KK 21.11.73-JA-130109 (16.08.73-JA-091280)

*E19 (18.10.79) *BE-818-839 C07c-43/30*

New cpds. are allylacetal derivs. (I) of formula



$$R_1R_2AC\text{-}R_3BC\text{-}R4HC\text{-}CH\left\langle\begin{matrix}O\text{-}R_5R_6C\text{-}R_7C{=}CR_8R_9\\ OR_{10}\end{matrix}\right.$$

In (I), R_1-8 are each H or 1-6C hydrocarbon; R_9 is H or 1-16C hydrocarbon; R_{10} is H a 1-2C hydrocarbon or $-CR_{11}R_{12}-R_{13}C{=}CR_{14}R_{15}$; R_{11}-R_{14} are each H or 1-6C hydro-carbon; R_{15} is H or 1-16C hydrocarbon; some of R_{1-15} may form a 6-9C alicyclic ring or a 5-membered heterocyclic ring contg. at least one O atom; A and B either are a double bond or one is an H atom and the other is 1-5C alkoxy which can form such a double bond.

(I) are useful for the prepn. of unsatd. aldehydes of formula $R_8R_9C{=}CR_7\text{-}CR_5R_6\text{-}CR_1R_2\text{-}CR{=}CR_4\text{-}CHO$. 14.8.74 as 439140 (30pp068)

DEGS D23 47301B/26 =DS 2755-949

Beta-phenylethyl alcohol prodn. from phenyl-glycol - by hydrogenating in presence of platinum gp. metal and halogen cpd.; used in perfumery

DEUTSCHE GOLD & SILBER 15.12.77-DT-755949

*E14 (18.10.79) *DT2755-949 C07c-29 C07c-31/16*

β-Phenyl ethyl alcohol is prepd. by hydrogenating phenyl glycol in presence of a metal of the platinum gp. and of HF, HCl, HBr, Cl_2 or Br_2 or an (in)organic Cl or Br cpd. forming such under the conditions of reaction.

Reaction is conducted at below 100°C and a hydrogen pressure of less than 19.6 bar. Also present may be 1-12 moles of water per mole of glycol. The alcohol is obtd. practically free from halogen and suitable for use in the perfume industry. 15.12.77 as 755949 (4pp068)

SHEL D23 61508Y/35 =GB 1554-461

Dimethyl-nonanolal scent for perfumed prods. - prepd. by hydroformylating dimethyl-octenol using rhodium or cobalt cpd. catalysts (NL 23.8.77)

SHELL INT RES MIJ BV 20.02.76-GB-006868

*E13 (24.10.79) *DT2707-108 A61k-07/46 C07c-47/19*

4,8-Dimethylnonan-8-ol- 1-al of formula $HOCMe_2(CH_2)_3CHMe(CH_2)CHO$ by hydroformylating 3.7-dimethyloct-1-en7-ol with H_2 and CO in the presence of an Rh or Co cpd. as catalyst.

Pref. the catalyst is $HRh(CO)(PPh_3)_3$. The hydroformylation is carried out at 50-200°C at ≤150 bar pressure in an aromatic hydrocarbon solvent. $CO_2(CO)_8$ may be used as an alternative catalyst.

The prod. may be used in perfume compsns. such as soaps, detergents, cleaners, cosmetics or room deodorants. In concd. perfume compsns. , (I) is present in amt. ≥0.1 wt.%. 20.11.76. as 006868 (2pp931)

BADI D23 32889Y/19 =GB 1554-468

(2,6,6)-Trimethyl-cyclohexenone prodn. - from ethyl isopropyl ketone and acrolein, used in perfume and carotenoid synthesis (NL 26.4.77)

BASF AG 22.10.75-DT-547223

*B05 E15 (24.10.79) *DT2547-223 C07c-49/48*

Mfr. of 2,6,6-trimethyl-cyclohex-2-en-1-one (I) comprises reacting ethyl isopropyl ketone (II) with acrolein in organic solvent, in the presence of strong organic acid ascatalyst, at 40-150°C. Suitably (II) is used as solvent and water formed by the reaction is distilled off during the reaction.

The reaction mixt. may be distilled; the distillate obtd. at 7-5-76°C /18 mm Hg heated at 150-250°C; and (I) distilled off from this prod. Alternatively unreated starting materials and water are distilled off from the reaction mixt. , and the residue is heated at 150-250°C or treated with HCl at 50-150°C, then (I) is distilled off.

(I) is an intermediate for scents, e.g. damascenone, and carotenoid type cpds. 21.10.76. as 043675 (5pp945)

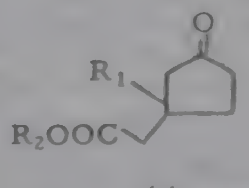
HASE ★ D23 77918B/43 ★ J5 4117-423

Jasmonic ester deriv. prodn. - by ring closure of a chain keto-ester, specifically new (m)ethyl-3-oxo-6-nonanoic ester

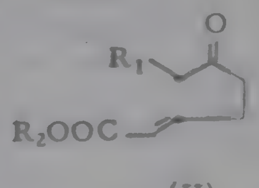
HASEGAWA KK 06.03.78-JA-024430

E15 (12.09.79) B01j-23/02 B01j-31/02 C07c-67/30 C07c-69/73

Jasmonic ester derivs. of formula (I)



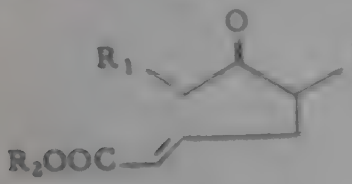
(I)



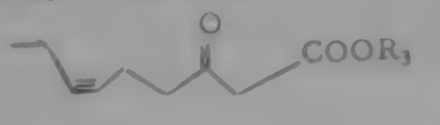
(II)

(where R_1 is $CH_3CH_2C{\equiv}CCH_2$-, $CH_3CH_2CH{=}CHCH_2$- or $CH_3(CH_2)_4$-; and R_2 is Me or Et) is prepd. by ring closure of a chain ketoester of formula (II) in the presence of a base.

New chain ketomono- or di-esters are of formula (III) and new 3-oxo-6-nonynonic esters are of formula (IV) (where Y is H or -COOR$_3$; and R$_3$ is Me or Et).

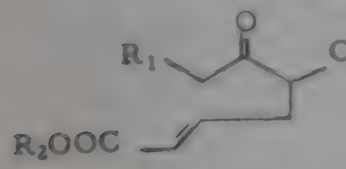


(III)

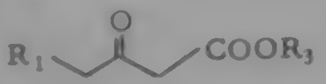


(IV)

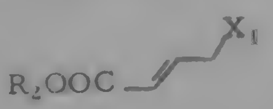
(II) is obtd. by dealkoxy-carbonylation of chain keto-diester of formula (V), which is obtd. by condensn. of β-ketoester of formula (VI) and 4-halocrotonic ester of formula (VII) in the presence of a base;



(V)



(VI)



(VII)

(where X is halogen). 6.3.78 as 024430 (14pp78).

ASAE ★ D23 78151B/43 ★J5 4119-058

Fluid oil and fat compsn. useful for cake mfr. - comprising fat-sepd. soft oil derived from butter, rice oil, propylene glycol mono:stearate and glycerine mono:stearate

ASAHI DENKA KOGYO 06.03.78-JA-025253

E17 (14.09.79) A23d-03

Fluid oil and fat compsn. is composed of (a) 3-50 wt.% of a fat-sepd. soft oil which is obtd. from natural butter and has rising m.pt. 20-25°C and solid fat indicator 1-10 at 20°C and 25-40 at 10°C, (b) 50-88 wt.% of rice oil, (c) 5-15 wt.% of propyleneglycolmonostearate and (d) 2-5 wt.% of glycerinmonostearate.

Compsn. shows good fluidity at 10-30°C similar to conventional compsn. used in cake prepn. Cakes prepd. with it have improved taste and flavour, texture, glossiness, colour and bulk density.

Fat-sepd. soft oil is obtd. by sepg. high m.pt. fraction of butter oil from natural butter by any solvent-sepg. method, surfactant-sepg. method and wintering method. It shows stronger taste and flavour of natural butter than conventional milk fat and it can give desirable taste and flavour to cakes using relatively small amts.. Propyleneglycolmonostearate is used to prevent the formation of solid fat in the compsn.. 6.3.78 as 025253 (5pp5).

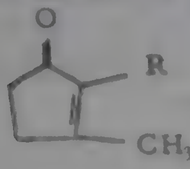
SAGA ★ D23 78258B/43 ★J5 4119-433

Di:hydro-jasmone perfume prepn. - by reacting an alpha-hydroxy-alpha,beta-enone cpd. with a mineral acid

SAGAMI CHEM RES CENTRE 09.03.78-JA-026064

E15 (17.09.79) B01j-27 C07c-45 C07c-49/46

α-Hydroxy - (alpha)(beta) - enone of formula : R$_1$CH$_2$COCH=CHCHOHCH$_2$R$_2$ is treated with a catalytic amount of a mineral acid in an aliphatic hydrocarbon solvent at 100 - 120°C and a dihydrojasmone of formula (II) is obtd.. In the formulae R$_1$ and R$_2$ are H or 4-6C alkyl (one of R$_1$ and R$_2$ must be H); and R is 4-6C alkyl.



(II)

The reaction is carried out in an organic solvent which includes an organic carboxylic acid such as acetic acid and propionic acid, an ether such as dioxane and tetrahydrofuran, an aromatic hydrocarbon such as benzene, toluene and xylene and an aliphatic hydrocarbon such as hexane and octane. The mineral acid is chosen from sulphuric acid, phosphoric acid or hydrochloric acid. 9.3.78 as 026064 (5pp15).

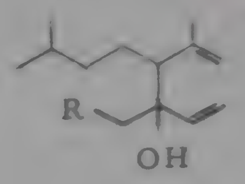
KURS ★ D23 78259B/43 ★J5 4119-434

Ionone cpd. perfumes prodn. - involves rearranging propargyl type of alcohol to pseudo:ionone which is cyclised

KURARAY KK 07 03 78-JA-027118

E15 (17 09 79) C07c-175

Prodn. of a normal type of ionone deriv. of formula (I) is claimed in which a propargyl type of alcohol of formula (II) is rearranged with heating to give a pseudo-ionone deriv. of formula (III). (III) is cyclised to give (I) (R is (un)satd. hydrocarbyl).



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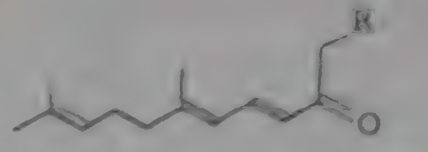

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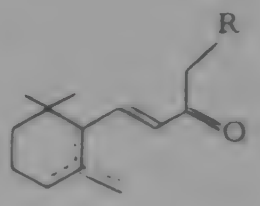
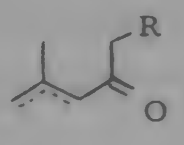


(I)

Pref. (II) is reacted with a phenyl halide and a ketone of formula (IV) in a condensation reaction to give an unsatd. keto of formula (V). (V) is then treated in a thienylating step to give (I).



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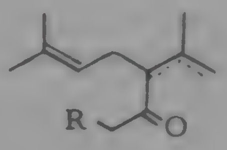


(V)

Pref. thieny
ation is perform
ed in the prese
of a strong basi
cpd. such as al
ali metal by usi
an organic pola
solvent such as
DMS, DMSO, N
methyl-pyrrolic
one or THF.

7.3.78 as 027118 (5pp15).

CORP ★ D23 78526B/43 ★RD -186-0

Efficient oil recovery from moist particulate vegetable materials - reducing the water content prior to solvent extn.

CPC INTERNATIONAL INC 20.09.79-RD-186059

*(10.10.79) C11b-00/**

Particulate vegetable material contg. 20-55 wt. % water formed and dried to a moisture content < 15 wt. % prior to extraction of the oil in the material with a solvent.

Process is simplified, does not require the use of deleterious operating conditions, permits almost comple oil recovery from a variety of materials, and does not release finely divided material into the solvent. (4pp558)

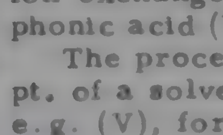
AAOR= ★ D23 78562B/43 ★SU -618-3

2-isobutyl pyran derivs. prepn. - by reacting 2-methyl-4-buten with methyl isobutyl ketone in presence of acid catalyst, used citrus scent in perfumery

AS ARMN ORG CHEM 03.11.76-SU-420714

E13 (22.06.78) C07d-309/18 C11b-09

The cpd. a deriv. of 2-iso-butyl pyran of formula (I):



(I)

It is a mixt. of the following isomers: 2, 4-dimethyl-2-iso-butyl-3,6-dihydropyra (II), 2,4-dimethyl-2-iso-butyl-5,6-dihydropyran (III) and 2-methyl-2-isobutyl-4-methylene-tetrahydropyran (IV) in the ratio of 58.6 : 1.0 : 40.4. It has a pleasant citrus type fruit odour.

The isomeric substance of the formula (I) is formed b reacting 2-methylbutenol-4 (V) with methyl-isobutyl ketone (VI). The reaction is carried out in the presence of an acid catalyst, e.g. inorganic or organic acids, or ion-exchange resins in the H-form, pref. p-toluene sulphonic acid (VII).

The process (condensn.) is pref. carried out at the b. pt. of a solvent, or with an excess of one of the reagents e.g. (V), forming an azeotropic mixt. with water. Simultaneous removal of water in the form of the azeotropic mixt. speeds up the reaction.

Gevorkyan, A.A., Arakelyan, A.S., Khizantsyan, N.M. et al. Bul. 29/5.8.78. 31.1.76. as 420714 (2pp48

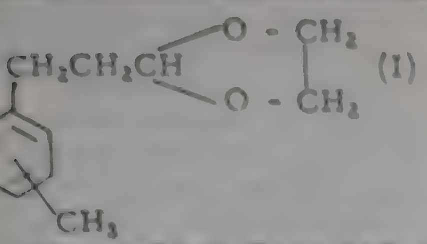
SYNT= ★ D23 78593B/43 ★SU -644-7

Beta-tolyl:propionaldehyde ethylene-acetal prepn. - from corres propionaldehyde and ethylene glycol in presence of specifie catalyst, used as scent perfume and cosmetic compsn.

SYNTH NATURAL PERFU 01.08.77-SU-518311

E13 (30.01.79) C07c-43/30 C07d-317/12 C11b-09

β-toluylpropionaldehyde ethylene acetal is of formula (I)


(I)

The prepn. of (I) involves the reaction between β-toluylpropionaldehyde (II) and ethylene glycol (III) in the presence of the cation-exchange resins (KU-23 or KU-1) or sodium bisulphate (IV).

The yield of (I) is 66% of theory when using the cation xchangers and 90% of theory when (IV) is employed as e catalyst.

The catalyst, (IV) can be used several times (10 exeriments were carried out with one and the same (IV)) ithout decreasing the yield of (I).

Chelfits, L.A., Kologrivova, N.E., Shumskaya, I.V. et l. Bul. 4/30.1.79. 1.8.77. as 518311 (2pp48)

IPI/ ★ D23 78709B/43 ★SU -645-654

Cosmetic and perfumery prods. - contg. waste tea plant ariel growth xtract, to improve scent retention

KIPIANI N K 07.12.76-SU-423701

(07.02.79) A61k-07/46

The scent in cosmetic or perfumery compsn. is fixed by he addn. of tea plant aeral growth extract. The latter mproves the retention of scent without the use of high cost balsams and resins. The waste leaves, stems etc. after processing mature tea plant for mfr. of tea, are extracted with ethyl alcohol. The extract is prepd. by mixing 25% waste with 75% ethanol and holding the mixt. for 15 days. The solvent was evapd. at 65°C/650-700mm Hg. to give light-brown extract with only a trace of the aroma.

Kipiani, N.K., Nikolaishvili, G.Ya. Bul. 5/5.2.79. 7.12.76. as 423701 (2pp938)

AMGR- D23 03841B/02 =US 4170-860

Dipped taper candles made by vertically reciprocating weighted wicks - in wax then removing weight and moulding candle base

AMERICAN GREETINGS 14.03.77-US-777429 (02.10.78-US-948086)

*(16.10.79) *US4131-415 B29c-13 +B29c-17/10*

Automatic formation of dipped taper candles comprises a frame holding wicks under tension mounted on a conveyor. The frame being reciprocated in and out of a dipping bath to produce the desired coating.

At the cut-off and butt forming positions means are provided to hold the candles stationary in relation to the holding rack. Pref. means are included for the automatic transfer and packaging of the resulting candles. The arrangment is suitable for use with systems of the type described in 4131415 for the automated production of decorative taper candles. 2.10.78 as 948086 Div.ex. 4131415 (36pp397)

D24: SOAP; SOAP DETERGENTS

UGIN D24 48761Y/28 =DS 2700-851

Sepg. linear from branched chain soaps using a lithium cpd. - esp. for acids prepd. via hydroformylation of olefins

UGINE KUHLMANN 13.01.76-FR-000680

*E12 (E17) (18.10.79) *BE-850-091 C07c-51/42*

Straight chain and branched 8-22C carboxylic acids are recovered from a mixt. of soaps of straight and branched chain 8-22 C acids. An aq. soln. of such a mixt. of soaps is treated with a soluble lithuim cpd. The lithium soaps of straight chain 8-22C acids are pptd. and sepd. off. The free acids are recovered by the action of a strong acid on the pptd. soaps or on the aq. soln. of remaining soaps of branched acids.

The mixt. of soaps may be obtd. by hydroformylation of straight chain olefines followed by oxidation of the resulting aldehyde or alcohol. 11.1.77 as 700851 (4pp068)

D25: OTHER DETERGENTS

INTE- ★ D25 77163B/43 ★BE -875-555

Washing and bleaching compsn. contg. carbonate and peroxy cpd. - with aryl sulphonate and insoluble inorganic cpd. to prevent caking during storage in humid atmos.

INTEROX SA 17.04.78-FR-011637

E37 F06 (E14 F09) (15.10.79) C11d-03/39 D06c D06l-03/02

A particulate compsn. contains an alkaline carbonate, a peroxide cpd, an alkaline aryl sulphonate and a water-insoluble inorganic cpd. The pref. inorganic cpds. are Mg cpds and derivations of Sc and Al, specifically magnesium trisilicate. The amt. of aryl sulphonate is pref. 0.01-40% based on the carbonate plus seroxy cpd; specified is sodium methylnaphthalene sulphonate. Peroxy cpds are pref percarbonates, persulphates and perborates, partic soduim salts and specifically soduim percarbonate.

The compsns are used in clothes and dish washing machines, surface cleaning, textile bleachine, the bleaching of fats, oils and cellulosic materials such as wood and paper pulp. The incorporation of the sulphoride and insoluble inorganic cpd avoid caking of the compsns during storage in a humid atmosphere. 13.4.79 as 875555 (13pp).

WOLF/ ★ D25 77279B/43 ★DL -136-826

Prodn. of waste softeners for detergents - by coating carrier with sodium aluminate in presence of surfactant

WOLF F 19.04.78-DL-204866

E33 (01.08.79) C02b-01/44

Prodn. of water-softening materials comprising a layer of Na aluminate on a solid carrier is carried out by treating the carrier with a Na aluminate soln. contg. a surfactant.

The products are useful as additives for phosphate-free or low-phosphate detergents. Addn. of the surfactant increases the Ca-binding capacity of the products (cf. DT 2527243). 19.4.78 as 204866(6pp367)

BRAU/ ★ D25 77333B/43 ★DL -136-977

Glycerol recovery from saponification liquor - by evapn. of the liquor with recycle of crystalline salt, followed by distn.

BRAUER C 01.06.78-DL-205720

E17 (08.08.79) C07c-31/22 C11d-19

Recovery of glycerol (I) from waste liquors derived from neutral fat saponification is carried out by (a) stirring and evaporating the liquor until NaCl satr. is reached; (b) adding a recycled bottoms product contg. finely crystalline NaCl and reducing the evapn. rate and stirring speed; (c) separating crude (I) by decantation; (d) distilling the crude (I) in a thin-film evaporator to recover pure (I); and (e) recycling the bottoms product from step (d) to step (b).

The recycled fine NaCl crystals act as nuclei for the formation of coarse crystals, which can be sepd. without the use of expensive filtration, extraction or ion-exchange equipment. 1.6.78 as 205720(9pp367)

HENK D25 08287U/07 =DS 2136-672

Washing and cleaning compsns - contg as builders water-soluble salts of polymeric alpha-hydroxy or alpha-amino-acrylic acids

HENKEL KG AUF AKTIEN 22.07.71-DT-136672

*A97 (18.10.79) *DT2136-672 C11d-03/20*

Washing agent contains ≥1 anionic, zwitterionic and/or nonionic surfactant and builders at least part of which are water soluble slats of polymeric α-hydroxy- and α-amino-acrylic acids (I). Salts (I) are prepd. by reacting α, β-dihal-propionic acid (esters)in aq. medium with hydroxides, carbonates or acetates of alkali metals, esp. Na, ammonia, amines or quaternary ammonium hydroxides.

Salts (I) are pref. Na salts of poly-α-hydroxyacrylic acid and pref. form ≥ 3 wt.% of the washing agent. The absence of polyphosphates in the waste water is beneficial. 22.7.71 as 136672 (10pp068)

HENK D25 28683X/16 =DS 2543-976

Pourable agglomerate contg. aluminosilicate calcium binders - and water sol. salts, for washing agents

HENKEL KG AUF AKTIEN 03.10.74-OE-007967

*E37 (18.10.79) *DT2543-976 C11d-03/12*

A pourable builder-agglomerate comprises (A) 20-70 wt.% of a water insoluble, powdery silicate, made synthetically and contg. bound water with a power to bind calcium of ≥50 mg. CaO/g anhydrous active substance of formula $(Kat_{2/n}O)_x \cdot Me_2O_3 \cdot (SiO_2)_y$ (where Kat is a cation exchangeable with Ca of valency n, x is a number 0.7-1.5, Me is B or AL and y is a number 0.8-6(1.3-4) and (B) 30-80 wt.% of ≥2 water soluble salts contg. water of crystallisation of the gp. tri-pyro- and ortho-phosphates, sulphates, carbonates, metasilicates and borates of alkalis, esp. sodium.

The builder may be prepd. by mixing component (A) with a water content of 35-55 wt.% with salts of (B) which will bind the water as water of crystallisation. 2.10.75 as 543976 (6pp068)

HENK D25 30515X/17 =DS 2545-190

Powdery detergent contg. water-insoluble silicate - of boron or aluminium, and soap, is prepd. by atomisation of silicate enriched slurry

HENKEL KG AUF AKTIEN 10.10.74-OE-008150

*E37 (18.10.79) *DT2545-190 C11d-09/18 C11d-11/02*

A powdery, pourable washing agent is prepd. contg. (A) a powdery water in sol. cpd. capable of binding calcium of formula $(Kat_{2/n}O)x. Me_2O_3. (SiO_2)y$ (where Kat is a cation exchangeable with Ca of valency n; x is a number 0.7-1.5; Me is B or AL; y is a number 0.8-6(1.3-4) and bound water may be present) and (B) soap and opt. minor amts. of tensides, builders and other normal additives. An aq. mixt. rich in component (A) but poor in component (B) is spray dried to a pourable prod. and mixed with a powdery mixt. of the remaining constituents, poor in component (A) but rich in component (B). 9.10.75 as 545190 (9pp068)

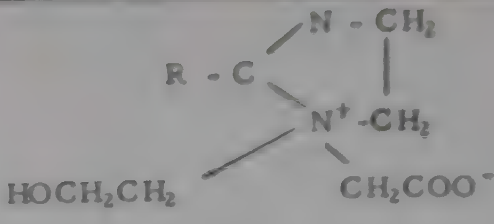
MORI/ ★ D25 77842B/43 ★J5 4070-307

Non-polluting aq. detergent compsn. - contains sodium and potassium salts, imidazolium betaine deriv., aliphatic mono:ethanolamine and di:ethanolamide

MORIYAMA M 16.11.77-JA-136753

E34 (E13 E16) (06.06.79) C11d-01/66 C11d-03/10 C11d-10/02 C11d-102 02

The detergent compsn. is prepd. by dissolving Na hydrogen carbonate ($NaHCO_3$), K hydrogen carbonate ($KHCO_3$), sodium sesquicarbonate ($Na_2CO_3.NaHCO_3.2H_2O$), 2-alkyl-N-carboxymethyl-N-hydroxyethyl-imidazolium-betain of formula (I) (where R is alkyl); (which affords less irritation to eyes and skin, has stabilised foaming activity, stabilised activity against sea water and hard water, excellent compatibility with cationic, anionic and nonionic detergents and is susceptible to microbial decompsn.


(I)

of > 98%), an aliphatic monoethanolamine of formula $RCONHCH_2CH_2O$ (II) (where R is aliphatic group) (an anionic detergent prepd. by adding an aliphatic alkylolamide with ethylene oxide and having protective activity against skin irritation, strong resistance against alkali and sea water and being susceptible to microbial decompsn. of > 98%) and a minor amt. of 12-14C aliphatic diethanolamide of formula $RCON(CH_2CH_2O)_2$ (III) (where R is 12-14 C aliphatic group) (having high rust inhibiting action and being susceptible to microbial decompsn. of > 99%) in water.

The compsn. can wash textiles in a short time. They are defoamed in a short time and do not irritate the skin or kill microbes in river water. 16.11.77 as 136753 (3pp).

KANE ★ D25 77917B/43 ★J5 4117-421

N-(3-Oleyloxy-2-hydroxypropyl) amine derivs. - useful as nonionic surface activators, emulsifiers and dispersants

KANEBO KK 02.03.78-JA-024860

E16 (12.09.79) B01f-17/34 C07c-89 C07c-93/19 C11d-01/66

N-(3-oleyloxy-2-hydroxypropyl)-amine derivs. of formula (I). $R_1OCH_2CH(OH)CH_2NHR_2$ (I): (where R_1 is oleyl; and R_2 is hydroxyethyl, 2,3-dihydroxypropyl, 2,2'-dihydroxy-tert-butyl or trimethylolmethyl) are novel.

Specif. (I) are N-(3-oleyloxy-2-hydroxypropyl)ethanolamine, N-(3-oleyloxy-2-hydroxypropyl)-2,3-dihydroxypropylamine, N-(3-oleyloxy-2-hydroxypropyl)-2-amino-2-methyl-1,3-propanediol and N-(3-oleyloxy-2-hydroxypropyl)-trimethylolaminomethane.

(I) is obtd. by reacting 1 mol of glycidyloleylether and 1.2-3 mols of alkanolamine such as monoethanolamine, trimethylolaminomethane, 2,3-dihydroxypropylamine or 2-amino-2-methyl-1,3-propanediol at 70-110°C for 2-3 hours in the presence or absence of solvent such as ethanol. 2.3.78 as 024860 (5pp78).

ASAF ★ D25 78044B/43 ★J5 4118-388

Non-corrosive 1,1,1-tri:chloroethane compsn. - contg. dodecyl benzene sulphonate

ASAHI DOW KK 08.03.78-JA-025522

E16 (13.09.79) C11d-07/50

A 1,1,1-trichloroethane (I) compsn. contains dodecyl benzene sulphonate (II), to reduce the corrosiveness of (I).

The amt. of (II) is 0.01-5.0 wt.% on (I). 0.01-10.0 wt.% on (I) of ≥1 of ethers, epoxy cpds., alcohols, nitroalkanes and aliphatic nitriles is/are mixed with (I) and (II), for further reducing the corrosiveness, when the present compsn. is used with steam. Examples of these reagents are diethyl ether, dioxane, methyl cellosolve, acetone dimethyl acetal, propylene oxide, epichlorohydrin, methanol, ethanol, nitroethane, acetonitrile, etc.. 8.3.78 as 025522 (5pp42).

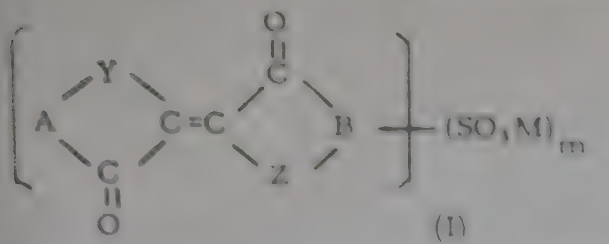
YGOS ★ D25 78294B/43 ★J5 4119-504

Decolourising coloured water used for flushing toilets etc. - with chlorine agent, e.g. hypochlorite soln., or microorganisms, e.g. those in activated sludge

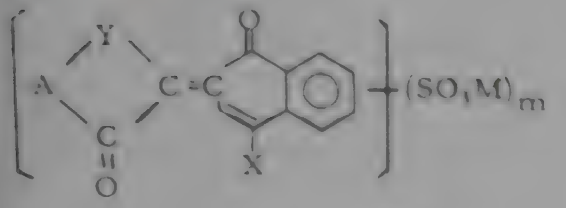
YAMAMOTO KAGAKU GOS KK (SAKI) 10.03.78-JA-027959

E12 (D15) (17.09.79) C02b-01 C11d-03/40

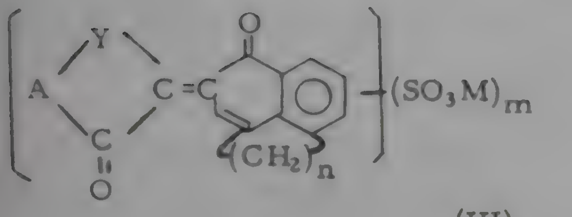
Water, e.g. for flush toilets, etc., which has been coloured with cpds. of formula (I)-(IV)



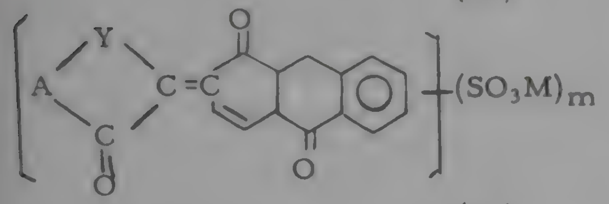
(I)



(II)



(III)



(IV)

(where A and B are an aromatic group joining independently with the carbonyl group and Y or Z are selected from 1,2-phenylene 1,2-naphthylene, 2,3-naphthylene, and 1,8-naphthylene; Y and Z are independently selected from -NH- and -S-; X is halogen, $-SO_3M$ is a gp. of sulphonic acid alkali metal salts joining with A and/or B; m is 1 - 4, n is 1 or 2; and A and B may join with a substit. other than $-SO_3M$), used together with fungicide, a pH regulator, perfume, surfactant, or chelating agent etc,, is treated with a chlorine decolourising agent and/or a micro organism, e.g., a hypochlorite solution or activated sludge. 10.3.78 as 027959 (9pp117).

MACH= ★ D25 78635B/43 ★SU -644-819

Detergent mixture for cleaning metal surfaces - contg. detergent, calcined soda, urea, alkyl phosphate, metasilicate and phosphate salts

MACH TRACTOR REPAIR 02.06.75-SU-140149

E11 M12 (02.03.79) C11d-01/34

Addn. of a potassium salt of hydroxylated alkyl phosphates or ethanolamine salt of alkylphosphates (I) and di- or tri-sodium phospate (II) improves the efficiency of the detergent mixture used for cleaning metal surfaces.

The mixt. contains (in wt.%): (I) 0.3-0.7, (II) 10-30, Na tripolyphosphate 5-25, Na m-silicate 10-30, carbamide 20-30, non-ionogenic surfactant (III) 1-2 and calcined soda ⩽ 100, with (III) consisting of polyethylene glycol esters of higher 10-13C or 10-20C fractions of fatty acids.

Gurvich, L.M., Getmanskii, I.K., Krasnova, N.N. et al Bul. 4/30.1.79. 2.6.75. as 140149 (3pp124)

BENC D25 55162A/31 =US 4171-277

Granular product for washing and cleaning compsns. - contains alkali metal aluminosilicate and a highly polymerised phosphate

BENCKISER J A GMBH 01.04.77-DT-714604

*(16.10.79) *BE-865-572 C02b-01/44 C11d-03/12 +C01b-33/28 C11d-11*

An agglomerate compsn. is prepd. comprising a highly condensed polymer phosphate, and an ion-exchanging alkali metal aluminium silicate. The polymer phosphate has the formula $Me^{(I)}(n+2)PnO(3n+1)$ such that n is 4-50 and Me^{I} is an alkali metal cation or ammonium. The compsn. is prepd. in a by-weight ratio of polymer phosphates to silicate of 2:1-1:2.

Pref. the compsn. further comprises an amt. of sodium tripolyphosphate to obtain a mixt. contg. 5-100 wt% of polymer phosphate and 0-95 wt% of tripolyphosphate, such that the ratio of polymer phosphates to silicate is 2:1-1:2.

The compsn. is a non-caking and free-flowing granulated compsn. of high abrasion resistance. The compsn. is used as an additive to washing, rinsing and cleaning agents, as a water-softening agent and as a textile washing agent. 31.3.78 as 892209 (7pp931)

HENK D25 57909Y/33 =US 4171-278

Detergent for washing textiles at all temps. - contg. anionic nonionic and/or zwitter ionic tenside(s) and (acylated) hydroxyalkylamine (BE 4.8.77)

HENKEL KG AUF AKTIEN 11.11.76-OE-008373 (06.02.76-OE-000840)

*A97 E16 (16.10.79) *DT2703-020 C11d-01/44*

A surface-active cpd. combination is prepd. for use in textile washing agent compsn., and consists of ⩾1 tenside of the anionic sulphonate or sulphate type or non-ionic ethoxylated type, and ⩾1 hydroxyalkylamine cpd. such that the tenside is in wt. ratio to the hydroxyalkylamine of 100-1:1.

The hydroxylamine cpd. contains vicinal oxygen and nitrogen bridging atoms and is present as the ethoxylated/propoxylated deriv., the acylated deriv. or the ethoxylated/propoxylated acylated deriv.

The surface-active cpd. prepd. is used in the prepn. of low temp. detergents and low phosphate detergents. Good washing results may esp. be obtd. at 15-25°C. 2.11.78 as 941902 (+7.2.77, 5.4.77 - US - 766626, 784739) (+3.5.76 2.11.76 - OE - 003234, 008088) (17pp931)

CLOR- ★ D25 78992B/43 ★US 4171-280

Powder bleach contg. sodium percarbonate - prepd. by reacting sodium carbonate with hydrogen peroxide in fluidised bed

CLOROX CO 14.03.78-US-886662 (03.11.77-US-848216)

E34 (16.10.79) C11d-03/39 C11d-07/18

The compsn. is prepd. by spraying soda ash particles Na_2CO_3 with aq. H_2O_2 soln. at 35-70°C to produce a compsn. contg. enough Na percarbonate to provide 1-6 wt% available oxygen, the rest being Na_2CO_3.

The compsn. has better storage stability than mixtures of particulate Na carbonate and Na percarbonate and does not separate, as each particle contains regions of the two cpds. Na percarbonate dissolves rapidly and the available oxygen is quickly released. 14.3.78 as 886662 (9pp955)

UNIL D25 23321V/13 =US 4171-291

Alkane sulphonate prodn - by addition of bisulphite ion to alpha olefins in liquid medium gives product with surface active properties

LEVER BROTHERS CO 06.09.72-GB-041246

*E12 (16.10.79) *DT2344-421 C11d-01/14 +C11d-11/04*

Alkane sulphonates are prepd. by reacting an 8-20C olefin with bisulphite ions in a liq. medium in the presence of a substance initiating the reaction.

The process comprises forming a mixt. of olefin and a co-solvent contg. water and a 1-4C alcohol; and adding an aq. soln. of bisulphite to the mixt. to an excess of 0.1-0.2 mols of bisulphite ions per mol. of olefin; and adding sulphur dioxide to form bisulphite ions from the sulphite ions. In the initial mixt. the alcohol forms 58-70 wt% of the cosolvent and is present in amt. 50-100 wt% w.r.t. the olefin. After the bisulphite is added, the alcohol is present in amt. of 16-19 wt%; the bisulphite has a strength of ⩾90% of the satd value and contains ⩽ 14 mol% of sulphite ions w.r.t. bisulphite and sulphite combined.

The alkane sulphonates are pred. for use as a detergent active. Specific amts. of starting materials and specific reaction parameters give a high rate of reaction and high yield. 22.2.77 as 770547 (+31.8.71, 5.6.75, 5.5.76 - US - 393386, 583732, 683591) (2pp931)

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

```
EIGE/ 24.01.75  EIGENMANN L   A93  *DT 2602-948
    Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75  EIGENMANN L   A93 L02(A21)  *DT 2602-947
    Bonding fluid for road marking strips - 60223X/32
```

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

```
    M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607
```

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

```
09125-X ACDF
  US 3933-788   X05+
  CA -990-674   X26
09192-X BC
  US 3933-948   X05
  BE  -832-423  X10
  NL 7509-762   X10
  DT 2535-514   X11
  SW7509-042    X15
  NO7502-837    X16
  SF  7502-292  X19
  ZA 7504-766   X21
```

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or ≠ sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

```
US 3963
#636 36477U  A97[illegible]M14
*645 49861X  A41E19[illegible]4
=646 19776V  A41E19J04
=647 21100X  A17+R4
=650 06289S  A22
#651 24399W  A97K05L02M22
=652 73248V  A12
=653 70544V  A81G03
*654 49862X  A88H01Q4
*655 49863X  A81G03
```

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

```
CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg
natural rubber, hydrated                               49862X/26  *US 3963-654
   CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying
earth in dams                                          49433X/26  *DT 2554-327
   CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by
cultivating a species of                               48076X/26  *CA -990-668
   CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03
```

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

APPENDIX I

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non-Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishes accepted West German specifications (DAS) from the unexamined applications (OLS) which are given the normal DT code. in the case of Japan J5 represents the unexamined applications, and J7 the examined of the present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MW
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R	SU
Yugoslavia	YU

*AAOR= 03.11.76 AS ARMN ORG CHEM D23 E13 *SU -618-375
2-isobutyl pyran derivs. prepn. - 78562B/43

ABBO 21.12.77 ABBOTT LABORATORIES B03 C02 D22 E13 =J5 4117-480
Antibacterial antibiotic fortimicin B derivs. - 49414B/27

ABET- 06.03.78 A BETONG AB D15 E17 =SW 7802-501
Large scale mfr. of methane from organic waste e.g. manure - 66325B/37

ADOL/ 05.10.77 ADOLPHE M C03 D13 (D16) =GB 1554-534
Animal foodstuffs obtd. from brewery residues - 40420A/23

*AGEN 03.03.78 AGENCY OF IND SCI TECH D16 *J5 4117-500
Extracting substance for accelerating alpha-1,6 glucosidase prodn. - 77941B/43

*AGEN 07.03.78 AGENCY OF IND SCI TECH D15 F01 L02 *J5 4118-652
Solidification of sludge from river water treatment - 78113B/43

*AGEN 08.03.78 AGENCY OF IND SCI TECH A35 D15 F06 (A14 F09) *J5 4119-760
PVA and/or starch removal from effluent - 78369B/43

*AGEN 09.03.78 AGENCY OF IND SCI TECH D16 E17 *J5 4119-089
Microbial prepn. of glycolic acid - 78164B/43

*AGEN 09.03.78 AGENCY OF IND SCI TECH A23 D16 *J5 4119-593
biodegradation of polyesteramide copolymer - 78350B/43

*AGEN 09.03.78 AGENCY OF IND SCI TECH A23 D16 *J5 4119-594
Biodegradable film - 78351B/43

*AGEN 09.03.78 AGENCY OF IND SCI TECH A23 D16 *J5 4119-595
Biodegradable polyesteramide copolymer - 78352B/43

*AGUI/ 31.08.77 AGUIRRE A A D11 *US 4171-198
Appts. for extruding pliant sheets, esp. dough - 78948B/43

*AJIN 08.03.78 AJINOMOTO KK B02 D16 E13 *J5 4119-091
Fermentative prodn. of L-tryptophan - 78166B/43

*AJIN 09.03.78 AJINOMOTO KK D16 (D13) *J5 4119-088
Biochemical oxidn. of alcohol and aldehyde - 78163B/43

*ALBE/ 10.04.78 ALBERSMEYER W D15 *DT 2815-507
Thermophilic biochemical sewage treatment - 77544B/43

ALBR 13.02.78 BUSH BOAKE ALLEN L D13 =SF 7900-463
Dehydrating organic tissues esp. foods - 59829B/33

ALBR 06.03.78 BUSH BOAKE ALLEN LT D13 #DK 7800-990
Flavouring agent pepper cinnamon or turmeric emulsion prepn. - 70165B/39

ALBR 07.03.78 BUSH BOAKE ALLEN LT D13 #SW 7802-584
Flavouring agent pepper cinnamon or turmeric emulsion prepn. - 70165B/39

ALFA 31.01.78 ALFA-LAVAL AB D16 E17 =SF 7900-258
Continuous prodn. of ethanol - 60966B/33

ALKU 31.05.76 AKZO NV A97 C03 D22 (A23) =DS 2624-289
Bodies with controlled gas emission - 88442Y/50

ALKU 01.12.76 AKZO NV A11 D22 F01 (A14 A96) =GB 1554-624
Absorbent cellulose fibres for nappies, tampons etc. - 42467A/24

AMCY 21.08.75 AMERICAN CYANAMID CO B03 D16 =DS 2637-545
Broad-spectrum antibacterials from nocardia sp. NRRL 5646 - 12591Y/07

AMCY 08.04.76 AMERICAN CYANAMID CO D15 E31 M12 (M24) =GB 1554-681
Ferric sulphate recovery from iron mud - 53987Y/30

AMCY 02.02.78 AMERICAN CYANAMID CO B04 C03 D16 (D13) =J5 4117-781
Animal feed supplements for increasing growth rate - 61831B/34

AMCY 02.02.78 AMERICAN CYANAMID CO B04 C03 D16 (D13) =SF 7900-335
Animal feed supplements for increasing growth rate - 61831B/34

AMGR- 02.10.78 AMERICAN GREETINGS D23 =US 4170-860
Dipped taper candles made by vertically reciprocating weighted wicks - 03841B/02

AMMA 14.01.78 AMF INC D18 =FR 2414-305
Reconstituted tobacco from suspension of tobacco powder in adhesive - 37210B/20

AREN 05.08.76 ARENCO AB D12 =US 4170-806
Positioning fish for processing machines - 12639A/07

*ASAE 06.03.78 ASAHI DENKA KOGYO D23 E17 *J5 4119-058
Fluid oil and fat compsn. useful for cake mfr. - 78151B/43

*ASAF 06.03.78 ASAHI DOW KK A97 D17 (A18 A21 A23) *J5 4118-488
Sepg. aldose(s) from ketose(s) - 78093B/43

*ASAF 08.03.78 ASAHI DOW KK D25 E16 *J5 4118-388
Non-corrosive 1,1,1-tri:chloroethane compsn. - 78044B/43

*ASAG 12.04.78 ASAHI GLASS KK A97 D15 K05 M25 *GB 2018-786
Macromolecular adsorbent for heavy metal ion recovery - 77797B/43

ASAH 08.12.75 ASAHI CHEMICAL IND KK D12 E37 (E19) =J5 2069-794
Storing fresh fish and shellfish - 78491B/43

*ASAH 08.12.75 ASAHI CHEMICAL IND KK D12 E37 (E19) *J7 9030-959
Storing fresh fish and shellfish - 78491B/43

ASAH 08.09.76 ASAHI KASEI KOGYO A14 D15 J01 L03 (A32 A85 D16) =DS 2740-252
Porous polyacrylonitrile membranes with compact skins - 30455A/17

ASAH 23.03.78 ASAHI KASEI KOGYO K D16 J04 =GB 2019-001
Membrane potential of vesicles determn. - 73829B/41

*ATHE/ 07.06.78 ATHENSTADT D A35 D14 J04 *DL -137-017
Measurement of consistency of deformable substances such as foodstufs - 77352B/43

ATLS 27.03.78 ATLANTIC RESEARCH CORP D15 E19 J04 =WP 7900-835
Dehalogenation of halogenated organics - 23821B/12

*AUCO= 03.03.76 AS UKR COLLOID CHEM B05 D13 E19 *SU -644-782
Neutral aminoacid sepn. by liquid chromatography - 78602B/43

*AVEB- 24.02.78 COOP VERKOOP AVEBE A11 D17 *GB 1554-703
Prepn. of cold water insoluble starch prods. - 77749B/43

BADI 22.10.75 BASF AG B05 D23 E15 =GB 1554-468
(2,6,6)-Trimethyl-cyclohexenone prodn. - 32889Y/19

BAEC- 12.01.78 BAECK ENGINEERING D15 =FR 2414-485
Sepg. pig slurry into clean water and compost - 29788B/16

*BAKP 11.04.78 BAKER PERKINS HOLD D13 *DT 2914-543
Filled confectionery bars - 77667B/43

BAKP 26.03.79 BAKER PERKINS HLDGS D13 =GB 2018-668
Filled confectionery bars - 77667B/43

*BANY 06.03.78 BANYU PHARM CO LTD C03 D16 *J5 4117-401
Fungistatic neoenactin derivs. and salts - 77906B/43

BATT 14.02.78 BATTELLE MEMOR INST C02 D13 =J5 4117-425
Lactoyl-urea and n-methylol-lactoyl urea prepn. - 61866B/34

BATT 14.02.78 BATTELLE MEMOR INST C02 D13 =SF 7900-467
Lactoyl-urea and n-methylol-lactoyl urea prepn. - 61866B/34

BECK/ 01.03.78 BECKER D J C03 D15 (D13) =J5 4118-658
Treatment of effluent waters contg. fats and proteins - 33446B/18

*BEHW 07.04.78 BEHRINGWERKE AG B04 D16 J04 *DT 2815-029
Photomeric determn. of enzyme activity - 77507B/43

BENC 01.04.77 BENCKISER J A GMBH D25 =US 4171-277
Granular product for washing and cleaning compsns. - 55162A/31

*BESI/ 01.04.77 BESIK F D15 *CA 1064-169
Purification of waste water using single sludge system - 77264B/43

*BESI/ 16.05.78 BESIK F D15 *CA 1064-170
Small/scale sewage treatment in self-contained tank - 77265B/43

BETO- 06.03.78 A-BETONG AB D15 E17 =NO 7900-710
Large scale mfr. of methane from organic waste e.g. manure - 66325B/37

*BEZI- 31.03.78 ZENLINST MINIST BEZ D16 *DL -136-796
Heat economising system for boiling beer wort - 77268B/43

*BILS 10.04.78 BILLERUD UDDEHOLM D18 F09 *DT 2913-354
Prodn. of cellulose fibres from wood, and paper made from them - 77635B/43

BILS 10.04.78 BILLERUD UDDEHOLM A D18 F09 =GB 2018-849
Prodn. of cellulose fibres from wood, and paper made from them - 77635B/43

*BIRO/ 11.01.78 BIROLAUD P C03 D13 *FR 2414-303
Stable urea-molasses cattle food additive - 77691B/43

BLUE- 21.12.77 BLUE WING CORP C03 D13 (C04) =GB 2018-563
Dry fertiliser, animal feed or human feed prodn. - 47150B/26

BOCK/ 19.12.72 BOCK R D16 =DL -101-423
Straining vat bottom - 13537V/08

BOHN/ 15.04.78 BOHNKE B D15 =GB 2018-736
Waste water activated sludge plant with sec. activation tank - 59870B/33

*BPOW= 21.03.77 BELO POWER IND RES D15 H05 J01 *SU -645-662
Sea and salt-contg. water distillation appts. - 78711B/43

*BRAU/ 01.06.78 BRAUER C D25 E17 *DL -136-977
Glycerol recovery from saponification liquor - 77333B/43

BRDM 14.10.76 BIRD MACHINE CO D17 J01 =CA 1063-991
Rotary bowl coaxial screw conveyor centrifuge - 12041A/06

BRIM 27.06.75 BRISTOL MYERS CO B04 C03 D16 (D22) =CA 1063-953
Antibiotic figaroic acid complex - 03938Y/03

*BROW- 17.10.77 BROWN INT CORP D13 *US 4170-935
Fruit juice extn. by frusto conical disc - 78914B/43

*BRTA 10.04.78 BRIT AMER TOBACCO LTD A97 D18 J01 (A26) *DT 2911-533
Impregnated alumina chemisorbent compsn. - 77622B/43

BRTA 10.04.78 BRIT AMER TOBACCO LTD A97 D18 J01 (A26) =GB 2018-566
Impregnated alumina chemisorbent compsn. - 77622B/43

*BRUS/ 28.01.77 BRUSILOVSKII M I D18 E16 *SU -644-841
Chrome-tanning leather, e.g. pigskin - 78643B/43

BUHL 16.01.78 BUHLER-MIAG GMBH D16 =FR 2414-462
Malting kiln barley distribution system - 54755B/30

BULT/ 13.04.78 BULTHEEL J M D11 =GB 2018-562
Preparing layered paste for french pastry etc. - 54544B/30

*BUTT= 24.03.76 BUTTER CHEESE IND D13 *SU -644-419
Cheese whey prodn. drum - 78578B/43

*BUTT= 09.08.76 BUTTER CHEESE IND D13 *SU -644-420
Cheese multiple press bogie unit - 78579B/43

CANI 14.03.78 CANADIAN INDUSTRIES LTD A97 D12 (D13) =BR 7901-513
Shirred stick of tubular casing material for flowable material - 68477B/38

*CELA- 08.03.78 CELATOSE SA D22 *DT 2825-028
Throwaway baby's napkin - 77607B/43

CESK 25.04.74 CESKOSLOVENSKA AKAD A89 B04 D16 J01 (A14) =US 4171-412
Synthetic adsorbants for gel chromatographic sepn. of enzymes - 62236W/38

CHEM 10.03.78 CHEM WERKE HULS AG B05 D22 E15 =GB 2018-748
Tetra:chloro-cyclo:butenone prodn. from hexa:chloro-cyclobutene - 70150B/39

CHEM- 03.09.75 CHEMED CORP A91 D15 (A97) =CA 1064-182
Compsn. for rendering flocculant polymers highly water dispersible - 18052Y/10

CHIA 28.03.72 CHISSO ASAHI HIRYO KK C04 D16 F09 =J7 9030-936
Organic fertilizers from fermentation wastes prepn - 31471V/17
CHIR- 05.04.78 CHIRON SA D13 =DT 2910-292
Uncooked food prod. contg. meat or fish and cereals - 73612B/41
CHIR- 05.04.78 CHIRON SA D13 =NL 7902-270
Uncooked food prod. contg. meat or fish and cereals - 73612B/41
•CHIS/ 21.02.77 CHISTYAKOV B E D18 *SU -644-842
Aq. compsn. for degreasing collagen-contg. materials - 78644B/43
CIBA 14.02.73 CIBA GEIGY AG A97 D15 (A14) =J7 9029-998
Water treatment agents - 62419V/35
CIBA 14.04.75 CIBA GEIGY CORP A41 C01 D22 E12 (A60) =US 4171-424
Metal complexes of substd. amino acids as co-monomers - 82319X/44
CIBA 17.06.75 CIBA GEIGY AG A88 D15 F06 =CA 1063-944
Purificn. of industrial waste water contg. organic impurities - 00007Y/01
CIBA 25.03.77 CIBA GEIGY AG D22 E12 F06 =DL -137-058
Water-soluble phthalocyanine cpds. as antimicrobials - 71128A/40
CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) =J5 4119-486
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) =SF 7900-321
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) =BR 7901-174
Elimination of heavy metal ions from waste waters - 63162B/35
•CIBO/ 11.04.78 CIBOIT J D13 *DT 2914-542
Concentrated hot product cooling system - 77666B/43
•CLAR- 13.08.75 CLARK SON & MORLAND D18 *GB 1554-559
Degreasing appts. for skins - 77742B/43
•CLOR- 03.11.77 CLOROX CO D25 E34 *US 4171-280
Powder bleach contg. sodium percarbonate - 78992B/43
COLG 25.01.71 COLGATE PALMOLIVE CO D25 =J5 4119-505
Coloured solid particles - 50085T/31
COLG 24.02.75 COLGATE PALMOLIVE CO A96 D22 F07 =DK 7900-156
Absorbent pad - 56071X/30
COLG 24.02.75 COLGATE PALMOLIVE CO A96 D22 F07 =DK 7900-157
Diaper having perforated thermoplastic upper sheet - 53796X/28
COMP 02.10.74 SAINT-GOBAIN INDUSTRIES D22 F04 L01 #US 4171-265
Mineral fibre panel mfg plant with wet scrubber - 27483W/17
CORP 12.01.78 CPC INTERNATIONAL INC D17 E13 (D16) =FR 2414-556
Preparing high purity maltose crystals from starch hydrolysate - 52537B/29
CORP 11.05.78 CPC INTERNATIONAL INC C03 D17 G03 (D13) =US 4171-383
Refining moist whole wheat grain - 69954B/39
CORP 11.05.78 CPC INTERNATIONAL INC C03 D13 =US 4171-384
Starch and animal feed prodn. from wheat grain - 69953B/39
•CORP 20.09.79 CPC INTERNATIONAL INC D23 *RD -186-059
Efficient oil recovery from moist particulate vegetable materials - 78526B/43
CULL- 05.02.75 CULLIGAN INT CO A88 D15 J01 =DS 2504-818
Membrane unit for reverse osmosis water purification appts. - 65131X/35

•DAIN 06.03.78 DAINIPPON PHARM KK B04 D16 J04 *J5 4119-026
Kit for quantitative enzyme immunoassay - 78142B/43
•DAMO- 20.06.78 DAMON CORP B01 D16 J04 K08 *BE -877-090
Determn. of biologically active species in protein-contg. sample - 77217B/43
DANO- 08.03.78 DANOCHEMO A/S B05 C03 D13 (D16) =DK 7900-767
Animal feed additive for normalising intestinal microflora - 68372B/38
DANO- 08.03.78 DANOCHEMO AS B05 C03 D13 (D16) =SW 7902-104
Animal feed additive for normalising intestinal microflora - 68372B/38
•DAUC 03.03.78 DAIICHI SEIYAKU KK A96 B07 D22 *J5 4117-552
Hydrous vinyl acetate resin prodn. for poultice - 77954B/43
•DEAK 30.06.78 AKAD WISSENSCHAFT DDR B04 D16 *DL -137-234
DNA synthesis stimulating protein - 77415B/43
DEGS 15.12.77 DEUTSCHE GOLD & SILBER D23 E14 =DS 2755-949
Beta-phenylethyl alcohol prodn. from phenyl-glycol - 47301B/26
DEWD/ 12.04.78 DEW D D12 =DT 2900-112
Treating poultry carcasses - 00428B/01
•DIAP 01.02.78 DIA-PROSIM A91 D15 *J5 4117-593
chloromethylation of polymer for producing anion exchange resin - B/43
DIES- 08.03.78 DIESSEL & CO GMBH D16 =DK 7900-645
Alcohol, wort and carbon di:oxide determination in beer - 24153B/13
DOWC 25.08.71 DOW CHEMICAL CO A14 D15 #J7 9030-020
Alkali metal and ammonium polyacrylate - 31979T/20
DRAG 27.06.77 DRAGOCO GERBERDING D22 E17 (D21) =DL -137-056
Compsn. contg. 3,7,11-tri:methyl-dodeca-2,6,10 trien-1-ol - 00432B/01
DRAG- 22.02.78 DRAGOCO GERBERDING D23 E15 =J5 4117-439
Fixative for perfume compsns. - 64806B/36
•DREY/ 14.04.78 DREYER R D15 *DT 2816-233
Compact desalination plant - 77587B/43
DUNK/ 02.03.78 DUNKERS K R D15 =NO 7900-688
Overflow water relief system - 73807B/41
DUPO 15.02.78 DU PONT DE NEMOURS CO A96 B04 D16 =SF 7900-487
Sepn. of creatine kinase isoenzyme(s) - 61783B/34

EART- 03.03.77 EARTH CHEMICAL CO C03 D22 =US 4171-340
Insecticidal and fungicidal fumigation without combustion - 72820A/41
ELIL 18.02.77 ELI LILLY & CO B02 D13 #SU -645-579
(1)-Thiazolinyl-(2)-amino-benzimidazole derivs. - 59427Y/34
•EMSL- 04.04.78 EMSLAND-STARKE GMBH D13 *DT 2814-922
Potato protein coagulate for human nutrition - 77499B/43
ESSO 14.04.78 EXXON RES & ENG CO D16 E17 =GB 2018-772
Methyl ketone prodn. from n-alkane sec. alcohol - 75324B/42
•ESSO 14.04.78 EXXON RES & ENG CO C03 D16 (D13) *GB 2018-822
Microbial cells prodn. from methylotropic microorganism strains - 77805B/43
ETHI 20.11.74 ETHICON INC A96 D22 =CA 1063-903
Sutures with fixed needles - 31561X/17

FARB 04.05.72 BAYER AG A25 D18 G02 (A82) =DS 2221-756
Solvent-resistant polyurethane coatings - 71328U/47
FARB 15.03.73 BAYER AG A96 B04 D16 (B02) =CA 1063-952
Polymer-bound, water-soluble penicillin acylase - 68073V/39
FARB 28.11.74 BAYER AG B02 C02 D13 =CA 1064-020
Alpha-(imidazolidinonyl carbonylamino) penicillins and cephalosporins - 46019X/25
FARH 24.07.76 HOECHST AG C03 D16 (D13) =DL -137-121
Bacterial cell mass protein source for nutrition - 08585A/05
FARH 14.02.78 HOECHST AG A96 B07 D21 (A14) =J5 4119-025
Thickening cosmetic, pharmaceutical compsns. etc. - 61669B/34
FARH 04.03.78 HOECHST AG D12 =BR 7901-295
Sausage meat filling device - 66505B/37
FARH 06.04.78 HOECHST AG A97 D12 =DT 2814-826
Protective sheath for corrugated sausage skin stack - 75663B/42
FARH 07.04.78 HOECHST AG B04 D16 =DT 2815-030
Coagulating fermented biomass suspensions - 75297B/42
FARH 07.04.78 HOECHST AG B04 D16 =NL 7902-724
Coagulating fermented biomass suspensions - 75297B/42
FATE- 03.10.77 FATER SPA D22 F04 =GB 2018-599
Absorbent sanitary tampon of hydrophilic cellulose fibres - 10024B/06
•FERT- 07.04.78 FERTILIZERS & CHEM D13 E11 (D16 E12) *DT 2838-071
Silage agent - 77609B/43
FIRM 13.01.78 FIRMENICH SA B05 D23 E15 =FR 2414-488
Cis-10,10-di:methyl-tri:cyclo-(7.1.1.0)-undec-2 en-4-one - 54856B/30
•FJIE 06.03.78 FUJI ELECTRIC CO LTD D15 J04 *J5 4118-292
Measuring biological nitrification rate - 78000B/43
FLEC/ 01.10.68 FLECKENSTEIN A J D15 =DS 1949-640
Automatic piston valve for an ion exchange water- - 27094R/16
FMCC 05.06.72 FMC CORP A96 D22 F04 =J4 9061-988
Liquid absorbing fibrous mass - 79979U/52
FMCC 05.06.72 FMC CORP A96 D22 F04 =J7 9030-236
Liquid absorbing fibrous mass - 79979U/52
•FMCC 28.08.74 FMC CORP D15 *US 4171-263
Oxygenation of large body of sewage - 78979B/43
FOOD- 09.02.76 FOOD RESEARCH INC A97 D12 (A11) #CA 1063-866
Preventing microbial contamination of fresh meat - 88723X/47
•FORK/ 17.04.78 FORKNER J H D11 *US 4171-380
Cooked dough prod. contg. moist or frozen filling - 79028B/43
FRAU 28.12.77 FRAUNHOFER-GES FORD ANGE A26 B04 D16 (A96) =GB 2018-803
Silicic acid hetero-polycondensates - 52663B/29
FREU/ 05.10.76 FREUDENDAHL J A D14 =GB 1554-512
Chopped straw homogeniser - 27225A/15
FRNG 24.02.78 FRINGS H GMBH D16 J01 =BR 7901-162
Ultrafiltration circuit with recirculation - 64839B/36
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =SF 7803-860
Anticariogenic foods and pharmaceuticals - 58294B/32
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =SF 7803-861
Anticariogenic foods and pharmaceuticals - 58290B/32
•FUSS/ 26.07.77 FUSSEL K D11 *DL -137-321
Turning mechanism for bakery prods., esp. glazed doughnuts - 77440B/43

•GART/ 16.06.78 GARTNER F D15 *DL -137-189
Separator for fluids from animal and human sewage - 77404B/43
GENA 29.04.74 GAF CORP D21 E14 =CA 1064-049
Dialkyl-(p-dialkyl amino benzyloxy ethyl) ammonium salts - 28989W/17
GENO 28.01.75 GENERAL FOODS CORP D13 =CA 1063-867
Powder dessert compsns. contg. natural honey - 24022Y/14
GENO 25.08.75 GENERAL FOODS CORP D13 E17 =CA 1063-868
Blueberry flavour comprising linalool and alcohol and/or aldehyde - 59312Y/33
•GENO 08.09.75 GENERAL FOODS CORP D13 *CA 1063-864
Coffee prod. with good aroma retention - 77258B/43
GENO 07.01.76 GENERAL FOODS CORP D13 =CA 1063-865
Aromatic coffee constituents - 52544Y/30
GENO 30.03.76 GENERAL FOODS CORP C03 D13 (D16) =CA 1063-857
Dog food having improved taste and odour - 52279Y/30

GENO 17.08.76 GENERAL FOODS CORP D12 #CA 1063-862
Artificial meat prods. - 14036Y/08

•GENO 04.04.78 GENERAL FOODS LTD D13 *DT 2910-667
Soluble coffee prepn. from coffee solids - 77621B/43

GENO 04.04.78 GENERAL FOODS CORP D13 =GB 2018-560
Soluble coffee prepn. from coffee solids - 77621B/43

•GERN/ 20.04.78 GERNAND K H B04 D16 J04 *DL -137-053
Preservation of antigen substrates for diagnosis - 77358B/43

•GERN/ 04.05.78 GERNAND K H B04 D16 J04 *DL -137-383
Transport of infected urine samples for further testing - 77463B/43

•GESS/ 13.04.78 GESSLAUER R D15 E36 J03 *DT 2815-965
Ozone generator for water treatment - 77579B/43

•GIDR= 19.10.76 GIDROLIZPROM SCI PR D16 (D13) *SU -632-202
Growth stimulator for feedstuffs yeast nutrient medium - 78566B/43

•GILL 14.04.78 GILLETTE CO A96 D21 (A26) *GB 2018-590
Anhydrous, non-aerosol antiperspirant compsns. - 77755B/43

•GILL/ 13.04.78 GILLESPIE A V D15 H03 *GB 2018-703
Submarine container for bulk material - 77777B/43

GIVA 15.12.77 GIVAUDAN L & CIE SA D23 E15 =J5 4117-451
Perfume compsns. having floral and spicy odours - 05947B/03

GIVA 09.02.78 GIVAUDAN L & CIE SA D23 E13 (D13) =J5 4117-460
Mega-stigman-oxide and oxa-bi:cyclooctane perfumes and/or flavourants - 61791B/34

•GLAS/ 02.06.78 GLASER R D16 *DL -136-895
Separation of biological particles e.g. cells - 77305B/43

GRAC 07.12.76 GRACE W R CO C03 D13 (D16) =GB 1554-525
Feed supplement for ruminants to prevent lactic acidosis - 42538A/24

•GUBE/ 05.06.78 GUBERNATOROVA V A D15 E36 *DL -137-094
Removal of nitrate(s) nitrite(s) and organic cpds. from waste water - 77373B/43

HANR- 22.07.71 HANOVER RES CORP C03 D15 (C04 D13) #J4 8021-666
Pure water and solids recovery from effluents - 34522W/21

HANR- 22.07.71 HANOVER RES CORP C03 D15 (C04 D13) #J7 9029-994
Pure water and solids recovery from effluents - 34522W/21

•HASE 06.03.78 HASEGAWA KK D23 E15 *J5 4117-423
Jasmonic ester deriv. prodn. - 77918B/43

HAUN 05.04.78 HAUNI-WERKE KORBER KG D18 F01 =DT 2814-605
Selectively expanding transverse sections of flattened tow - 75853B/42

HAUN 05.04.78 HAUNI-WERKE KORBER KG D18 F06 =DT 2814-681
Plasticising cigarette filter tow - 75823B/42

•HAUN 07.04.78 HAUNI-WERKE KORBER KG A88 D18 F07 (A11) *DT 2815-025
Cigarette filter tip strand machine - 77506B/43

HAYB 09.03.78 HAYASHIBARA BIOCHEM B04 D13 (D16 D21) =J5 4119-092
Syrup contg. oligosaccharide(s) with fructose terminal gps. - 70259B/39

•HEAT= 02.02.76 HEAT- MASS-TRANSFER D16 *SU -644-836
Measuring moisture stability of microorganisms - 78641B/43

•HEIN/ 15.06.78 HEINRICH H W B04 D16 *DL -137-122
Large scale rota virus prodn. - 77385B/43

HENK 22.07.71 HENKEL KG AUF AKTIEN A97 D25 =DS 2136-672
Washing and cleaning compsns - 08287U/07

HENK 03.10.74 HENKEL KG AUF AKTIEN D25 E37 =DS 2543-976
Pourable agglomerate contg. aluminosilicate calcium binders - 28683X/16

HENK 10.10.74 HENKEL KG AUF AKTIEN D25 E37 =DS 2545-190
Powdery detergent contg. water-insoluble silicate - 30515X/17

HENK 06.02.76 HENKEL KG AUF AKTIEN A97 D25 E16 =US 4171-278
Detergent for washing textiles at all temps. - 57909Y/33

HENK 28.06.76 HENKEL KG AUF AKTIEN D21 E14 =US 4171-203
(4)-Alkoxy-(5)-alkyl (meta)-phenylene-diamines - 02007A/02

HERM/ 07.04.78 HERMANSSON A M I A11 D13 (A97) #DT 2815-153
Modifying starch with casein or a caseinate - 31502A/17

HESS/ 09.03.72 HESSELGREN S G D22 =US 4171-226
Infected article disposal - 57237U/39

•HITA 08.03.78 HITACHI KK D15 E36 *J5 4118-390
Ozone-removing aq. soln. for treatment of gas etc. - 78046B/43

•HITF 13.03.78 HITACHI SHIPBLD ENGG KK D15 *J5 4120-283
Treatment of garbage-contg. dirty water - 78424B/43

•HITK 13.03.78 HITACHI METAL KK D15 E37 M12 (M22) *J5 4120-219
Recovering iron components from acid pickling waste - 78397B/43

•HITK 13.03.78 HITACHI METAL KK D15 E37 M12 (M22) *J5 4120-282
Neutralisation of pickling waste acid - 78423B/43

•HOEG- 07.04.78 HOEGGER C & CIE AG A97 D12 *DT 2913-495
Plastics bracket for suspending sausages with wire-clip sealed casings - 77637B/43

HOEK- 29.03.77 HOEKA SIERPLEISTERS A82 C03 D22 F09 =DL -137-338
Wood preservative treatment - 70810A/40

HOFF 13.01.78 HOFFMANN-LA ROCHE SA D13 E24 =FR 2414-530
Colouring agent, esp. for drinks, based on natural colourant - 52539B/29

HOFF 14.02.78 HOFFMANN-LA ROCHE AG B03 D16 =SF 7900-486
Trestatin amino sugar derivs. - 61777B/34

HOLT- 07.05.77 HOLTZ & WILLEMSEN D13 =DL -137-322
Foodstuff analogous to marzipan - 65358A/37

•HOSO 08.03.78 HOKKAIDO SODA LTD A35 D15 F06 (A14 F09) *J5 4119-760
PVA and/or starch removal from effluent - 78369B/43

HOUD 18.06.76 HOUDAILLE INDS INC A31 D15 J02 =CA 1064-016
Dissolving polymer in solvent - 66997A/37

HUBE 15.09.76 HUBER J M CORP B06 D21 M14 =DK 7900-028
Fluoride tooth:paste compsn. suitable for unlined aluminium tubes 19654A/11

HUGH- 19.01.78 HUGHES STEEL PROD D14 #GB 1554-692
Feed mixer having a conical mixing chamber - 82856Y/46

HUSQ 03.02.78 HUSQVARNA AB D13 =SF 7900-283
Protein-contg. food prodn. - 61730B/34

•HYCO- 12.01.78 HYCO & AULAS ETAB D15 *FR 2414-480
Tap water continuously purified for use in surgical operations - 77707B/43

ICIC- 06.04.78 ICIC SPA D23 =NL 7902-169
Rotary cage continuous press to extract oil from seeds, etc. - 58060B/32

INCH- 06.04.78 IND CHIMICHE IT SPA D23 =DT 2913-457
Rotary cage continuous press to extract oil from seeds, etc. - 58060B/32

INDI- 10.08.78 FOUND INDIAN DEV D14 =US RE30-112
Steamer for fruit canning etc. in shallow pan - 64723X/34

INMI= 09.06.76 IND MICROORG GENETI B04 D16 =SU -644-796
Purificn. of proteolytic enzymes - 66837A/37

INOZ 24.01.72 INOUE JAPAX RES INC D15 =J5 0082-853
Electrolysis appts. for waste liquor treatment - 78446B/43

INOZ 24.01.72 INOUE JAPAX RES INC D15 =J5 0082-854
Waste water treatment by aeration in electrolysis zone - 78447B/43

•INOZ 24.01.72 INOUE JAPAX RES INC D15 *J7 9029-992
Electrolysis appts. for waste liquor treatment - 78446B/43

•INOZ 24.01.72 INOUE JAPAX RES INC D15 *J7 9029-993
Waste water treatment by aeration in electrolysis zone - 78447B/43

•INRG 11.01.78 INST NAT RECH AGRON A89 D12 J04 *FR 2414-726
Portable reflectometer incorporating plastics filter and pressure pad - 77732B/43

•INSP 13.04.78 INST PASTEUR B04 D16 J04 *BE -875-598
Identification of nucleic acid fragments - 77171B/43

•INSP 14.04.78 INST PASTEUR B04 D16 *BE -875-596
Modified lambda-bacteriophage DNA - 77170B/43

INSP 14.04.78 INST PASTEUR B04 D16 =GB 2018-778
Modified lambda-bacteriophage DNA - 77170B/43

•INTE- 14.11.75 INTERX RES CORP B03 C02 D22 E16 (D21) *US 4171-452
N-Chloro-amino ester derivs. of alkyl carboxylate(s) - 79063B/43

•INTE- 06.04.78 INTERMEDICAT GMBH A96 D22 (A23 A26) *DT 2913-510
Elastic blood-vessel resistant to piercing and collapse by kinking - 77638B/43

•INTE- 17.04.78 INTEROX SA D25 E37 F06 (E14 F09) *BE -875-555
Washing and bleaching compsn. contg. carbonate and peroxy cpd. - 77163B/43

INTE- 17.04.78 INTEROX D25 E37 F06 (E14 F09) =GB 2018-843
Washing and bleaching compsn. contg. carbonate and peroxy cpd. - 77163B/43

INTT 06.02.78 ITT INDS INC D15 F09 =SF 7900-165
Dual bacteria-contg. waste water e.g. sulphite liquor treatment - 60158B/33

ITII- 01.02.78 ICEBERG TRANSP INT D15 H01 =GB 2018-687
Self stabilising floating tower - 58336B/32

•IVAN= 09.09.77 IVANOVO POWER INST D15 J09 *SU -646-146
Combustion decontamination of aq. waste - 78863B/43

JAEG/ 19.01.78 JAEGER K H B04 D16 =SF 7900-150
Antiblastic immunological preparations - 39018B/21

JAGN 00.00.77 JAGENBERG WERKE AG D14 =DS 2757-897
Automatic dispenser of tiny doses of liq. - 31645B/17

JAPS 18.03.77 JAPAN SYNTHETIC RUBBER A96 D21 (A14) =DS 2811-500
Aq. dental embedding compsn. contg. PVA - 69281A/39

•JOHJ 27.01.77 JOHNSON & JOHNSON D21 E33 *US 4170-823
Artificial porcelain teeth having fluorescence matching natural teeth - 78896B/43

•JOHJ 11.04.78 DEVRO INC A97 D12 (A11) *DT 2914-529
Stabilising collagen films esp. sausage skins against fungi - 77664B/43

JOHJ 17.04.78 JOHNSON & JOHNSON A96 D22 =BE -875-645
Surgical drape with liquid collection bag - 75107B/41

JOHJ 17.04.78 JOHNSON & JOHNSON A96 D22 =GB 2018-597
Surgical drape with liquid collection bag - 75107B/41

JOHN/ 16.12.75 JOHNSON G W D22 #CA 1063-900
Reusable lightweight orthopaedic device - 80562A/45

JOHS 05.01.76 JOHNSON S C & SONS INC A97 D22 =J5 4120-075
Air-freshener having perfume in holder with polymer film - 72853Y/41

JOHS 16.01.78 JOHNSON S C & SONS INC D25 E12 (E16) =FR 2414-553
Non-scratching liquid scouring compsn. - 50731B/27

KABI 01.12.76 KABI AB B04 D16 J04 =DL -136-896
Chromogenic substrates for serine protease enzymes - 28830A/16

*KANE 02.03.78 KANEBO KK D25 E16 *J5 4117-421
N-(3-Oleyloxy-2-hydroxypropyl) amine derivs. - 77917B/43

KAOS 07.10.76 KAO SOAP KK A14 D22 (A96) =J7 9030-710
Crosslinked alkali acrylate polymer prepn. with high water-absorption - 29066A/16

KAOS 06.03.78 KAO SOAP KK A96 D21 E16 (A14 E17) =J5 4117-506
Shampoo contg. anionic surfactant, alkanol:amide and polyacrylic acid - 56687B/37

*KART- 12.12.77 KARTRIDG PAK CO D12 *US 4171-164
Automatic meat blending system with X/ray analysis - 78942B/43

*KATA- 05.04.78 KATAYAMA CHEM WKS C A97 C03 D22 F09 (A25 D15) *DT 2913-593
Microbicide for industrial cooling water and paper pulp - 77643B/43

*KDPO= 24.06.76 KRASN POLY D16 *SU -645-664
Turbulent mass transfer appts. - 78713B/43

*KEGE/ 19.06.78 KEGEL W D13 *DL -137-183
Control system for hydraulic press for degreasing cocoa mass - 77400B/43

*KFRU= 21.10.77 KAZA FRUIT VINE D16 *SU -644-828
Medicinal apple wine recipe - 78637B/43

KIHA- 31.03.78 KIHARA SANGYO KK A83 C03 D22 F07 =GB 2018-678
Multilayer inner sole for shoes - 75572B/42

*KINZ- 09.03.78 KINZOKU KOGYO JIGYO D15 E31 K05 M25 *J5 4119-314
Titanic acid adsorbent for recovering uranium in sea water - 78174B/43

*KINZ- 09.03.78 KINZOKU KOGYO JIGYO D15 E31 K05 M25 *J5 4119-399
Recovering desorbent from desorbed-uranium contg. liquor - 78230B/43

*KIPI/ 07.12.76 KIPIANI N K D23 *SU -645-654
Cosmetic and perfumery prods. - 78709B/43

KITA 07.03.78 KITASATO RES INST B02 D16 =J5 4119-468
Prodn. of antimicrobial nanaomycin E - 66679B/37

KITA 07.03.78 KITASATO RES INST B02 D16 =J5 4119-469
Prepn. of antimicrobial nanaomycin A in high yield - 66680B/37

*KNHS 10.04.78 HOOGOVENS IJMUIDEN BV C04 D15 H09 *DT 2914-004
Ammonia and ammonium salt removal from waste water - 77650B/43

KNHS 10.04.78 HOOGOVENS IJMUIDEN BV C04 D15 H09 =NL 7803-765
Ammonia and ammonium salt removal from waste water - 77650B/43

*KOBA/ 06.03.78 KOBASHI K B04 D16 *J5 4119-080
Enzyme for de-conjugation of tauro-bile acids - 78155B/43

*KOBA/ 06.03.78 KOBASHI K B04 D16 *J5 4119-081
Glyco-bile acid-de:conjugating enzyme - 78156B/43

KRFT 13.11.74 KRAFT INC D13 =CA 1063-860
Wrapped carmel disc confectionary - 38027X/20

*KRFT 27.03.78 KRAFT INC D13 *WP 7900-837
Appts. for pressing and deaeration of curd cheese - 79095B/43

KROY/ 02.03.78 KROYER K K K A81 D22 F04 =NO 7900-683
Binder-contg. fibrous sheet mfr. - 52566B/29

KUCK/ 29.03.78 KUCKENS A D13 =GB 2018-579
Domestic prepn. of coffee infusion from ground coffee - 56329B/31

*KUHN/ 14.04.78 KUHN A T D15 E36 J03 *GB 2018-826
Laminated mesh electrolysis electrode - 77806B/43

KURE 31.03.78 KUREHA KAGAKU KOGYO KK A83 C03 D22 F07 =GB 2018-678
Multilayer inner sole for shoes - 75572B/42

*KURS 06.03.78 KURARAY KK A88 D15 J01 (A14) *J5 4117-380
Polyvinyl alcohol based selectively permeable membrane - 77893B/43

*KURS 07.03.78 KURARAY KK D23 E15 *J5 4119-434
Ionone cpd. perfumes prodn. - 78259B/43

*KURS 13.03.78 KURARAY KK A88 D15 *J5 4117-381
Fitting bundle of hollow fibres to appts. for purificn. of water - 77894B/43

*KYOW 02.03.78 KYOWA HAKKO KOGYO KK B03 D16 *J5 4117-477
Antibiotic SUM-3 effective against e.g. Proteus vulgaris - 77935B/43

KYOW 03.03.78 KYOWA HAKKO KOGYO KK B03 D16 E13 (D22) =J5 4117-478
Antibacterial fortimicin KG derivs. - 66600B/37

*KYOW 06.03.78 KYOWA HAKKO KOGYO KK B04 D16 J04 *J5 4119-086
Fermentative prodn. of uricase - 78161B/43

*KYOW 07.03.78 KYOWA HAKKO KOGYO KK B05 D16 *J5 4119-090
Coenzyme/Q prodn. by fermentation - 78165B/43

KYOW 07.03.78 KYOWA HAKKO KOGYO KK B02 D16 =J5 4119-468
Prodn. of antimicrobial nanaomycin E - 66679B/37

KYOW 07.03.78 KYOWA HAKKO KOGYO KK B02 D16 =J5 4119-469
Prepn. of antimicrobial nanaomycin A in high yield - 66680B/37

*KYOW 17.04.78 KYOWA HAKKO KOGYO B04 D16 J04 *DT 2914-721
Cholinesterase activity determination - 77672B/43

KYOW 17.04.78 KYOWA HAKKO KOGYO B04 D16 J04 =GB 2018-988
Cholinesterase activity determination - 77672B/43

*LCHO 13.01.78 CHOAY SA B01 D21 *FR 2414-516
Cholestene- and cholestadiene-20-one(s) - 77713B/43

*LENG= 23.09.76 LENGORSOVET BREAD D11 *SU -606-569
Dough divider for bread prodn. - 78558B/43

*LERA= 18.05.76 LENGD RAILWAY TRANS D15 J01 *SU -645-679
Removing emulsions and suspended particles from waters - 78728B/43

LICN 13.11.73 LICENTIA PATENT GMBH D14 =DT 2366-298
Automatically controlled roasting oven for meat joints - 36115W/22

*LIED/ 07.06.78 LIEDLOFF B D21 E34 *DL -136-954
Prodn. of Maddrell's salt by heating sodium phosphate - 77316B/43

LINM 23.12.77 LINDE AG D15 =DS 2757-742
Activated sludge treatment of waste water - 49277B/27

*LIOC 10.03.78 LION DENTIFRICE KK B04 D21 J04 (D16) *J5 4119-992
Reagent for determining peri-dental disease relating bacteria 78383B/43

*LIOY 09.03.78 LION FAT & OIL KK A96 D21 E17 (A18 A26) *J5 4119-036
Human skin treatment compsn. - 78147B/43

*LOSS/ 28.02.78 LOSSE G A96 B04 D16 *DL -137-325
Fibrinolysis activating fragments from streptokinase - 77442B/43

*MACH= 02.06.75 MACH TRACTOR REPAIR D25 E11 M12 *SU -644-819
Detergent mixture for cleaning metal surfaces - 78635B/43

MADL/ 30.10.74 MADL J D18 =SU -645-963
Tool for cutting parallel lines in leather - 85045W/52

*MCGR/ 17.03.78 MCGREW J L D15 *WP 7900-791
Accelerated chemical reaction at increased pressure - 79078B/43

MEDI- 05.01.73 VEB KOMBINAT MEDIZI D22 =SU -644-831
Biological indicator prodn - 27206V/15

MEIJ 02.05.77 MEIJI SEIKA KAISHA B04 D16 =GB 1554-628
Antitumour and antibacterial antibiotic SF-1942 - 82525A/46

MEIJ 09.03.78 MEIJI SEIKA KAISHA C03 D16 =J5 4119-034
Herbicidal compsn. contg. antibiotic SF-1293 - 37454B/20

MERI 17.11.77 MERCK & CO INC B02 C02 D13 E13 (D22) =DK 7805-090
Pen-2-em-3-carboxylic acid and derivs. and 1 sulphoxide(s) - 44337B/24

MERI 10.03.78 MERCK & CO INC A97 D16 =DK 7900-986
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37

*MESG 21.06.78 MESSER GRIESHEIM GMBH D15 *BE -877-162
Treating water for drinking using ozone and oxygen - 77237B/43

METG 12.02.75 DRAVO CORP C03 D13 =CA 1063-861
Extracting a protein concentrate from seed material - 65243X/35

MICR- 14.07.75 MICROLOG LTD B04 D16 =GB 1554-446
Organ specific human cancer vaccine - 09702Y/06

MICR- 06.09.77 MICROLIFE TECHNICS D16 (D13) =DS 2809-759
Bacteria concentrate for fermenting sausages and other meat prods. 20240B/11

MIDU/ 10.04.78 MIDULLA M D13 =DT 2914-344
Milk substitute for children with e.g. food allergies - 75816B/42

*MIHA/ 08.03.78 MIHAMA H A96 B04 D16 *J5 4119-082
Modified asparaginase lacking antigenicity - 78157B/43

MILE 22.10.76 MILES LABORATORIES INC D13 (D12) =GB 1554-480
Prepn. of protein concentrate with fish texture - 15969A/09

MILE 06.03.78 MILES LABORATORIES INC D13 =SW 7901-980
Preparing products analogous to cheese - 50906B/28

*MILE 22.06.78 MILES LABORATORIES INC B04 D16 J04 *BE -877-060
Specific binding assay esp. for thyroid hormones - 77212B/43

*MILK- 02.09.76 MILKFOOD AB D13 *GB 1554-644
Storage stable milk powder prod. - 77748B/43

MINN 30.06.75 MINNESOTA MINING CO A97 D22 J04 =GB 1554-441
Indicator for concn. of vapour at phase boundary - 20315Y/12

*MITK 06.03.78 MITSUI TOATSU CHEM INC D15 E35 *J5 4117-400
Recovering ammonia from waste water contg. organic nitrogen - 77905B/43

*MITK 07.03.78 MITSUI TOATSU CHEM INC B02 D16 *J5 4119-484
Antimicrobial penicillinic acid derivs. - 78279B/43

*MITK 09.03.78 MITSUI TOATSU CHEM INC B04 D16 J04 *J5 4119-290
Reagent for determining leucine aminopeptidase - 78171B/43

*MITN 09.03.78 MITSUBISHI GAS CHEM IND B05 D16 *J5 4119-079
Coenzyme/q-10 prodn. - 78154B/43

*MITO 10.03.78 MITSUBISHI HEAVY IND KK D22 E36 *J5 4119-371
Removing foul smells from sewage plant waste gas, etc. - 78206B/43

*MITS 08.03.78 MITSUBISHI SHOJI KK D15 *J5 4119-773
Treatment of swine faeces - B/43

*MITU 09.03.78 MITSUBISHI CHEM IND KK A97 B04 D16 (A11) *J5 4119-083
Thermo-resistant superoxidedismutase prepn. - 78158B/43

*MIVE= 21.03.77 MINSK VENDING EQUIP D12 *SU -645-635
Meat carcass washing appts. - 78701B/43

MJOL- 15.12.72 MJOLKCENT EKON D13 =DS 2360-911
Edible spreadable water-in-oil fat emulsion - 47535V/26

*MLFO= 04.10.76 MOLD FOOD IND RES D16 (D13) *SU -644-832
Fungal strain Aspergillus fischer Wehmer no. 75 - 78639B/43

*MOME= 13.09.77 MOSC MEAT DAIRY IND D14 *SU -646-171
Granulated food products dryer - 78874B/43

MOMI 30.12.76 MORINAGA & CO D11 =US 4171-197
Pastry rolling machine - 50123A/28

*MORI/ 16.11.77 MORIYAMA M D25 E34 (E13 E16) *J5 4070-307
Non-polluting aq. detergent compsn. - 77842B/43

*MORT/ 15.04.78 MORTL K D15 *DT 2816-491
Sludge cleared from swage tank floor by towed rakes - 77596B/43

MRSC 27.02.74 MARS LTD C03 D13 =CA 1063-863
Feed products from whey protein - 46108W/28

MULL/ 13.07.73 MULLER H D16 =DS 2433-414
Liquid gasification esp. for aerobic processes - 11305W/07

*MULL/ 20.06.78 MULLER A D16 *BE -877-125
Extracting hops with carbon di:oxide under specified conditions - 77230B/43

MULL/ 12.08.78 MULLER E C03 D13 =DS 2835-381
Expanded animal feed croquettes - 71740B/40

*NAKA/ 13.03.78 NAKAYAMA T D22 J01 *J5 4120-279
Treating malodorous material - 78421B/43
*NALC 15.10.74 NALCO CHEMICAL CO A14 D15 H01 (A25) *US 4171-296
Hydrolysis of polyacrylamide dispersed in polymeric latex - 78997B/43
NATR 10 04 78 NATIONAL RES DEV CORP D21 L02 #DT 2815-438
Fluorescent dental porcelain imitating natural teeth - 76943A/43
*NCAU= 12.05.76 NORTH CAUCASUS VINI D14 *SU -645-641
Food puree prodn. sieving machine - 78707B/43
NEST 12.01.78 SOC PROD NESTLE SA D13 =FR 2414-302
Decaffeinating aq. tea extract - 47165B/26
NEST 10.03.78 SOC PRODS NESTLE SA D13 =BR 7901-453
Granule coating machine for ice cream - 68344B/38
*NEVE- 11.01.78 NEVEUX SOC EXPLOIT D15 *FR 2414-360
Mixing two liquids esp. recycling sludge in waste water treatment - 77697B/43
NEWB- 07.04.78 NEW BRUNSWICK SCIE D16 =DT 2906-462
Automatically filling petri dishes with nutrient - 75845B/42
NEWB- 07.04.78 NEW BRUNSWICK SCIEN D16 =US 4170-861
Automatically filling petri dishes with nutrient - 75845B/42
*NIKO/ 04.04.77 NIKOLAEV A L D12 *SU -645-636
Fish abdominal cavity cleaner - 78702B/43
*NIPE- 10.03.78 NIPPON PEROXIDE KK D15 *J5 4119-758
Improving dewatering properties of organic sludge - 78368B/43
NIPK 04.05.72 NIPPON KAYAKU KK A14 C03 D13 =J7 9030-021
Water-soluble anionic acrylate polymers prepn. - 31526V/17
*NIRA 07.03.78 UNITIKA KK A96 B07 D22 E13 *J5 4118-698
Anticoagulant for medical material e.g. catheters etc. - 78117B/43
*NIRA 12.04.78 UNITIKA KK A96 B04 D22 *DT 2914-822
Wound healing material - 77682B/43
*NISB 06.03.78 JAPAN TOBACCO & SALT PUB D18 E13 *J5 4117-479
Hydroxy-methoxy-phenyl-di:hydro iso:coumarin-8-O beta-D-glucose - 77936B/43
*NISS 08.03.78 NISSHIN FLOUR MILLIN D15 *J5 4119-773
Treatment of swine faeces - B/43
NITY 04.10.75 NITTETU CHEM ENG D15 J08 =CA 1063-800
Drying particulate solids in rotary kiln - 27458Y/16
*NODA 09.03.78 NODA INST SCI RES B05 D16 *J5 4119-443
5-Isopropyl-8-methyl-bi:cyclo(5,3,0)-deca-2,8 diene-2-carbo-aldehyde - 78261B/43
NOVO 17.01.78 NOVO INDUSTRI A/S D25 =FR 2414-550
Detergent compsn. contg. zeolite - 54864B/30
*NOVO 19.04.78 NOVO INDUSTRI A/S A96 B04 D16 *BE -875-657
Immobilising glutaraldehyde-sensitive enzymes - 77179B/43
*NREN 03.03.78 NIPPON WATER TREATM KK D15 J01 *J5 4117-378
Regenerating ion exchange resin in column - 77891B/43

*OCCI 03.04.74 OCCIDENTAL CHEM CO C04 D15 E33 (E36) *US 4171-342
Recovery of calcium fluoride from pond waters - 79011B/43
*OHIO- 23.06.77 OHIO AGRICULTURAL B04 C03 D16 *US 4171-354
Immunisation of cattle against respiratory disease - 79020B/43
OREA 30.06.75 L'OREAL SA A97 B07 D21 =CA 1063-908
Prodn. of aq. dispersions of lipid spherules - 03895Y/03
OREA 12.01.78 L'OREAL SA D21 E12 =FR 2414-502
Bis(2-thio-(N)-oxy-pyridyl) aluminium sulphonate s) prepn. - 06053B/04
OREA 06.04.78 L'OREAL SA D21 E34 =DT 2913-821
(N)-Hydroxyalkyl-(N)-mesyl:aminoalkyl-para phenylene:di:amine cpds. - 73616B/41
OREA 06.04.78 L'OREAL SA D21 E14 (E13 E24) =DT 2913-995
2,4-Di:hydroxy-4'-amino-di:phenylamine cpds. - 73614B/41
OREA 06.04.78 L'OREAL SA D21 E24 =DT 2914-048
Substd. alkoxyalkyl-para-phenylene:di:amine cpds. - 73615B/41
OREA 06.04.78 L'OREAL SA D21 E24 =GB 2018-808
Substd. alkoxyalkyl-para-phenylene:di:amine cpds. - 73615B/41
OREA 06.04.78 L'OREAL SA D21 E14 (E13 E24) =GB 2018-809
2,4-Di:hydroxy-4'-amino-di:phenylamine cpds. - 73614B/41
OREA 06.04.78 L'OREAL SA A96 D21 E24 =GB 2018-836
Two/part hair colouring using oxidn. dyes - 73617B/41
OREA 06.04.78 L'OREAL SA D21 E24 =NL 7902-687
Oxidation dye compsns. for hair dyeing - 73619B/41
OUTO 14.02.78 OUTOKUMPU OY D15 J04 =SF 7800-480
Tubular cell for voltameter or polarograph - 61720B/34

*PARA- 13.01.78 PARAGERM FRANCE SA D22 *FR 2414-337
Bactericidal liq. spray to disinfect interior of buildings - 77693B/43
PARA- 09.02.78 PARAISTEN KALKKI OY D15 J01 =SF 7800-422
Preliminary pptn. vessel for purificn. of suspension - B/39
PENN 05.04.78 PENNWALT CORP D11 E34 (D17) =GB 2018-561
Potassium bromate powder additive to flour and starch - 75603B/42
PENN 05.04.78 PENNWALT CORP D11 E34 (D17) =NL 7902-648
Potassium bromate powder additive to flour and starch - 75603B/42
PETR- 03.02.78 CHR F PETRIS EFTF D13 =SF 7900-330
Chewing gum contg. sorbitol as sweetener - 58020B/32
*PETZ/ 06.06.78 PETZOLD H D12 *DL -137-052
Improving the quality of meat products - 77357B/43
PFIZ 17.10.73 PFIZER INC B02 C02 D13 (D22) =CA 1064-019
7-Amino-4-(tetrazol-5-yl or carbamoyl)-ceph-2 or 3-ems - 30564W/19
PHIM 29.03.78 PHILIP MORRIS INC D18 =GB 2018-565
Expanding tobacco to increase its filling capacity - 56315B/31
PHIP 08.03.76 PHILLIPS PETROLEUM CO D14 =CA 1063-877
Appts. for producing marbled ice cream prod. - 11673B/06
PIEC 03.03.78 PIERCE CHEMICAL CO B04 D16 #SW 7802-470
Peptide synthesis - 71082B/39
PIEC 06.03.78 PIERCE CHEMICAL CO B04 D16 #DK 7900-989
Peptide synthesis - 71082B/39
*PIEH/ 09.06.78 PIEHL G D12 *DL -136-921
Compact steamer for preserving food esp. fish - 77306B/43
PIHL 13.05.75 PILKINGTON BROS LTD A96 D22 L01 (D21) =GB 1554-555
Bandage stiffener for splints - 90931X/49
*PILL/ 13.06.78 PILLING G C03 D13 *DL -137-051
Animal bonds comminution to feedstuff - 77356B/43
POLA 10.04.78 POLAK'S FRUTAL WORKS INC D23 E13 =DT 2914-109
Perfume component cyclic acetal(s) and ketone(s) - 75302B/42
POLA 10.04.78 POLAK'S FRUTAL WORKS INC D23 E13 =NL 7902-826
Perfume component cyclic acetal(s) and ketone(s) - 75302B/42
PROB/ 23.07.75 PROBST J D16 =DS 2532-859
Baled hops homogeniser - 11310Y/07
PROC 14.10.74 PROCTER & GAMBLE CO A97 D25 E19 =CA 1063-905
Low-foaming detergent compsns - 32338X/18
PROC 13.11.74 PROCTER & GAMBLE CO D25 E19 =CA 1063-906
Granular free-flowing phosphate-free detergents - 07245X/04
PROC 01.08.75 PROCTER & GAMBLE CO B05 D21 =DK 7900-324
Bis-trifluoromethyl-phenyl-(n')-biguanido-alkanes - 11095Y/07
PROC 30.10.75 PROCTER & GAMBLE CO D22 F07 =CA 1063-918
Laminated disposable diaper - 33107Y/19
*PUBL= 03.11.77 PUBLIC BUILD TOWN P D15 *SU -645-942
Ljquid aerator for effluent - 78819B/43
PULL 02.10.75 PULLMAN INC A41 D15 E14 =CA 1064-171
Reducing phenol content of waste water of phenol prodn. from cumene - 27474Y/16
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 F09 =GB 2018-777
Solid or aq. solvent for extracting cellulose - 68397B/38
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 F01 =SW 7901-896
Glucose prodn. from cellulosic materials - 70256B/39
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 =SW 7901-897
Glucose prodn. by cellulose acid hydrolysis - 68608B/38
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 F09 =SW 7901-898
Solid or aq. solvent for extracting cellulose - 68397B/38
PURD 08.03.78 PURDUE RESEARCH FOUNDATI D17 E13 F09 =SW 7901-899
Recovering cellulose from waste materials - 73955B/41

*RAGS/ 16.12.77 RAGSDALE C C03 D22 *US 4171-092
Poultry houses fumigation system - 78938B/43
RALS 05.04.78 RALSTON PURINA CO B05 C03 D13 =US 4171-379
Reducing iron deficiency in suckling piglets - 75608B/42
RALS 05.04.78 RALSTON PURINA CO C03 D13 =US 4171-385
Prepn. of molasses based animal feedstuff blocks - 75604B/42
*RALS 05.04.78 RALSTON PURINA CO C03 D13 *US 4171-386
Animal feed-block contg. magnesium oxide and ferrous sulphate - 79029B/43
RATI- 11.07.75 VEB FORSCH RATIONAL D11 =DS 2621-836
Shearing and slitting a continuous band of crispbread - 52201X/28
RHON 27.07.77 RHONE-POULENC INDUSTRIES A97 D16 E13 (A11 D17) =DL -137-248
Cells contg. glucose-isomerase enclosed in cellulose ester - 08012B/05
*RHON 13.01.78 RHONE-POULENC INDUSTRIES D15 E36 *FR 2414-481
Treating aq. effluents contg. aldehyde(s) by chlorination - 77708B/43
RHON 16.01.78 RHONE-POULENC INDUSTRIES D17 (D16) =FR 2414-555
Xanthomonas polysaccharide(s) used to prepare aq. gels - 52555B/29
RHON 02.03.78 RHONE-POULENC INDUSTRIES D25 E33 =BR 7901-258
Synthetic alkali silico-aluminate prodn. - 68504B/38
*RIED- 00.00.77 RIEDEL-TECHNIK GMBH D12 *DT 2815-269
Skinless sausage machine - 77520B/43
*RILA= 27.09.77 RIGA LATVIYAS BALZA D16 *SU -644-830
Punch recipe - 78638B/43
ROGG 28.08.74 ROGER & GALLET A97 B07 D16 =CA 1063-951
Formation of aerosol prods - 85013W/52
*ROQF 21.06.78 ROQUETTE FRERES SA C03 D16 (D13) *BE -877-034
Potato or manioc starch filter aid - 77207B/43
ROUS 07.04.78 ROUSSEL UCLAF B02 D22 =DT 2914-060
Amino:thiazolyl-acetamido cephalosporin derivs. - 73624B/41
ROUS 07.04.78 ROUSSEL UCLAF B02 D22 =NL 7902-784
Amino:thiazolyl-acetamido cephalosporin derivs. - 73624B/41

RUHS 25.04.78 RUHRSTICKSTOFF AG C03 D13 =DT 2814-573
Mineral additive for animal nutrition - 75693B/42

• RZVE- 12.04.78 R & Z VERMOGENSVERW A97 B04 D16 J04 *DT 2815-758
Antigenic peptide complexes - 77558B/43

• SAGA 09.03.78 SAGAMI CHEM RES CENTRE D23 E15 *J5 4119-433
Di:hydro-jasmone perfume prepn. - 78258B/43

• SAKI 10.03.78 SAKAI CHEMICAL AND KK D25 E12 (D15) *J5 4119-504
Decolourising coloured water used for flushing toilets etc. - 78294B/43

SAOC 01.08.75 SANRAKU OCEAN B03 D16 =CA 1063-954
Prepn. of acyl derivs. of macrolide antibiotics - 14024Y/08

• SARS 13.04.78 SARTORIUS GMBH A88 D15 E36 J01 (A11) *DT 2816-085
Asymmetric cellulose hydrate ultrafiltration membranes - 77583B/43

SCGR 15.02.78 SOC CHIM GRANDE PAROISSE A25 D22 E16 =J5 4117-412
Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - 68495B/38

SCHD 16.07.76 SCHERING AG B01 D16 =DL -137-235
Androstan-(17)-one derivs. prodn. by fermentation - 06352A/04

SCHD 25.01.78 SCHERING AG B01 D16 =SF 7900-240
17-Alpha-hydroxy-corticoid derivs. substd. by acetal or thio:acetal - 58435B/32

• SCHE/ 30.03.78 SCHERZ K D14 *DT 2912-477
Straw cutting machine - 77627B/43

SCHM/ 10.06.76 SCHMID L A D15 #GB 1554-464
Modular aerator and separator for sewage plant - 58085B/32

• SCHN/ 22.06.78 SCHNELL K D14 *BE -877-150
Rotary food mincer with trap for metal foreign bodies - 77233B/43

• SCHR/ 01.04.76 SCHRODER I B04 D16 *DL -137-364
Recovering immunologically active fractions from leucocytes - 77456B/43

• SCHU 00.00.76 SCHULKE & MAYR GMBH D22 E17 (E36) *DT 2815-400
Mixt. yielding antimicrobial aq. percarboxylic acid solns. - 77530B/43

SCNG 20.02.70 SCHNEIDER & CO D22 E33 =DS 2008-010
Bone and teeth substitutes - 56183S/35

SCOP 21.05.74 SCOTT PAPER CO A94 D22 F02 (A96 F04) =CA 1063-919
Yarn for disposable materials - 80548W/49.

SCOX 25.03.77 SCOVILL MFG CO D11 =CA 1064-017
Dough hook attachment for kitchen mixer - 12255A/06

• SEKI 06.03.78 SEKISUI CHEMI IND KK C04 D15 (D13 D17) *J5 4118-656
Treatment of starch-contg. waste water - 78115B/43

SERT- 22.11.76 SERTOG SOC ETUD REC B05 C03 D21 =J5 4119-035
Acid, insect-removing shampoos - 36655A/21

• SHEL 16.06.75 SHELL OIL CO D15 F09 H03 J01 *US 4171-264
Sepn. of oil-saline water emulsions - 78980B/43

SHEL 20.02.76 SHELL INT RES MIJ BV D23 E13 =GB 1554-461
Dimethyl-nonanolal scent for perfumed prods. - 61508Y/35

• SHIG/ 11.03.78 SHIGETOMI Y D15 E37 J01 K05 *J5 4120-285
Rotary adsorption drum - 78426B/43

SHIO 12.02.68 SHIONOGI KK B04 D16 #DS 1695-830
Antibiotic zygosporin a obtained by cultivation of - 23382R/14

SHIO 25.08.77 SHIONOGI KK B02 C02 D22 E13 =DL -137-230
3-Thiadiazolyl-thiomethyl-oxa-de:thia-cephem derivs. - 01945B/02

SHIO 07.03.78 SHIONOGI KK B02 D16 =DK 7900-858
Antibacterial antibiotic cephamycin C microbiological prodn. - 68393B/38

SHIO 07.03.78 SHIONOGI KK B02 D16 =J5 4119-094
Antibacterial antibiotic cephamycin C microbiological prodn. - 68393B/38

SHIO 07.03.78 SHIONOGI KK B02 D16 =SW 7902-005
Antibacterial antibiotic cephamycin C microbiological prodn. - 68393B/38

SMIK 16.01.78 SMITH KLINE INSTRUM B04 D16 J04 =FR 2414-729
Determination of creatine kinase isoenzyme(s) - 52549B/29

SMIK 16.01.78 SMITH KLINE INSTRUM B04 D16 J04 =J5 4119-291
Determination of creatine kinase isoenzyme(s) - 52549B/29

SMIN 13.05.75 SMITH & NEPHEW RES A96 D22 L01 (D21) =GB 1554-553
Bandage stiffener for splints - 90931X/49

SMIN 13.05.75 SMITH & NEPHEW RES A96 D22 L01 (D21) =GB 1554-554
Bandage stiffener for splints - 90931X/49

SNAM 06.06.75 SNAMPROGETTI SPA D15 =DS 2625-358
Desalination of sea water by evapn. - 92386X/50

SNAM 23.12.76 SNAMPROGETTI SPA A32 B04 D16 F01 (A18 A28 A94) =DL -136-856
Porous fibre prepn. from polymer soln. or melt - 45860A/26

SNAM 23.12.76 SNAMPROGETTI SPA C03 D16 H04 (D13) =DL -137-120
Methanol-utilising Candida strain - 45864A/26

• SNKM 11.04.78 SANKIN IND CO LTD D21 *GB 2018-666
Tooth crown mfr. using photocurable resin compsn. - 77771B/43

• SOLI/ 26.06.78 SOLISCH P B04 D16 J04 *DL -137-247
Virus antibodies detection - 77422B/43

• SOLL/ 12.04.78 SOLLICH H D13 *DT 2815-804
Sugar paste thread extruder - 77563B/43

• STAR= 14.07.76 STARCH PROD RES INS D17 *SU -644-839
Grain moistening in starch prodn. - 78642B/43

• STAR= 14.07.76 STARCH PRODUCTS RES D17 *SU -645-078
Grain moistening process completion determination - 78688B/43

STAU 26.07.75 STAUFFER CHEMICAL CO A11 D13 E34 (D16) =CA 1063-955
Heavy metals removal from carragheenan in algae - 71297X/38

STAU 12.01.78 STAUFFER CHEMICAL CO D12 =FR 2414-304
Filler for minced meat prods. - 52535B/29

• STAV= 06.09.77 STAVROPOL POLY D13 *SU -645-638
Prodn. of milk from reconstituted milk powder - 78704B/43

• STEE/ 13.01.78 STEEG L B04 C03 D16 *FR 2414-554
Bacterial culture medium - 77717B/43

STEP- 18.01.75 STEPHAN A SOHNE D13 =CA 1063-859
Confectionary mfr in one vessel - 38154X/21

STEP/ 20.08.76 STEPHAN J T A97 C03 D13 #CA 1063-858
Treating hardened fish eggs with acidic urea soln - 81122X/43

STER 10.10.78 STERLING DRUG INC B05 C03 D22 (B03 C02) =US 4171-371
4-Benzyl or cyclohexyl or 2-furfuryl heptane-3,5 di:one derivs. - 18014B/10

• STOL/ 01.09.77 STOLLER B B D16 *US 4170-842
Synthetic casing for mushroom beds - 78899B/43

• SUMI- 08.03.78 SUMITOMO JUKI ENVIRO A35 D15 F06 (A14 F09) *J5 4119-760
PVA and/or starch removal from effluent - 78369B/43

SUMO 06.03.78 SUMITOMO CHEMICAL KK A91 D15 J01 (A11) =J5 4117-385
Cellulose fibre-based ion exchanger filter material - 68362B/38

• SUMO 08.03.78 SUMITOMO CHEMICAL KK A96 B04 D16 *J5 4119-084
Carrier for fixing enzymes - 78159B/43

SUMO 30.03.78 SUMITOMO CHEMICAL KK D23 E14 =GB 2018-816
1,1,3,4,4,6-Hexa:methyl-1,2,3,4-tetra:hydro naphthalene prepn. - 75544B/42

SUMV 01.08.74 SUMITOMO DUREZ CO A97 D15 E36 J01 (D16) =CA 1064-006
Activated carbon adsorbent - 23297X/13

SUND/ 23.07.76 SUNDBERG H M D15 =US 4170-797
Domestic septic tank - 08677A/05

SVME- 25.01.78 SVENSKA MEJERIER RI D13 =SF 7803-725
Continuous prodn. of buttery prod. spreadable at low temps. - 37197B/20

• SYNT 20.02.75 SYVA CO B04 D16 J04 *US 4171-244
Enzyme-bound ligands - 78967B/43

• SYNT 05.04.78 SYVA CO B04 D16 J04 *DT 2913-550
Immunoassay method for component of ligand anti:ligand pair - 77640B/43

SYNT 05.04.78 SYVA CO B04 D16 J04 =GB 2018-986
Immunoassay method for component of ligand anti:ligand pair - 77640B/43

• SYNT 05.04.78 SYVA CO A96 B04 D16 J04 *NL 7902-663
Direct immunoassay method for ligand or receptor determn. - 78496B/43

• SYNT= 01.08.77 SYNTH NATURAL PERFU D23 E13 *SU -644-773
Beta-tolyl:propionaldehyde ethylene-acetal prepn. - 78593B/43

• TAAR- 26.01.79 MASKIN TAARUP A/S D14 *DK 7900-341
Lye treatment appts. for chopped crops - B/43

• TAIS 15.11.77 TAISHO PHARMACEUT KK A97 B04 C03 D16 (A14) *J5 4070-494
Antibiotic Rhonomycin prodn. - 77844B/43

TAKE 13.10.65 TAKEDA CHEMICAL IND KK B04 D16 =SU -633-488
Antibiotic enduracidine - 26732F/00

• TAKE 07.03.78 TAKEDA CHEMICAL IND KK B04 D11 *J5 4119-038
Difficultly-digestible polysaccharide food for treating hyperlipidaemi - 78149B/43

• TAKE 09.08.78 TAKEDA CHEMICAL IND KK D16 *J5 4119-085
Alkali protease - 78160B/43

• TANA/ 09.01.78 TANAKA T D15 *J5 4094-755
Purifying agent for polluted water - 77852B/43

TEIJ 12.08.71 TEIJIN KK A23 D15 =J7 9030-034
Polyamidoimide precursor - 09439U/07

TEIJ 16.08.73 TEIJIN KK D23 E19 =DS 2439-140
Lgg chain allyl acetal cpds. - 05742W/04

TEIJ 13.03.78 TEIJIN KK A60 D13 E36 G04 (D22) =J5 4120-287
Oxygen scavenging and heat generating compsn. - 68443B/38

• TEKH= 02.06.78 TEKHRYBPROM D12 *DL -136-795
Filleting machine for fish of different sizes - 77267B/43

• TELN- 03.03.78 TELNITE KK A91 D15 J01 *J5 4117-386
Alkali resistant agent for removing heavy metal from waste water - 77897B/43

TETR 05.04.78 TETRA PAK INT AB D22 =NL 7902-388
Packaging strip sterilising device - 75582B/42

• THEM/ 03.11.78 THEMY T D15 E36 J03 *US 4171-256
Compact electrolytic appts. for chlorine generation - 78974B/43

• TIER- 19.06.78 FORSCH TIERPROD DUM C03 D13 *DL -137-245
Glucosinolate removal from rapeseed extraction residues - 77421B/43

• TKAG 06.03.78 TAOKA CHEMICAL KK A97 D15 E24 (A21) *J5 4118-654
Decolourisation of dye contg. waste liquor - 78114B/43

• TOKR- 06.03.78 TOKYO RIKAKI KIKAI D16 E17 *J5 4117-379
Contact type device for reacting solid or liq. with gas - 77892B/43

• TOKU 10.03.78 TOKUYAMA SODA KK D15 *J5 4119-374
Desalination using multistage electric dialysers - 78209B/43

• TORA 10.11.77 TORAY IND INC A88 D15 J01 (A25) *J5 4067-573
Semipermeable membrane used e.g. in treating sea water or brine - 77833B/43

TOYJ 16.09.76 TOYO SODA MFG KK A89 B05 D13 E19 =US 4171-430
Separating natural sweeteners, such as glucoside(s) - 35979A/20

• TOYM 27.02.78 TOYOBO KK A92 D14 *J5 4119-041
Packaging food in heat proof film esp. of polyester - 78150B/43

• TOYM 01.03.78 TOYOBO KK A92 D14 *J5 4119-037
Cooking food direct from the refrigerator - 78148B/43

TRAN- 06.06.75 TRANSPORTBETONBERA C03 D13 J01 L02 (C04 D15) =GB 1554-634
Water sepd from cenent, lime etc by decantation - 79449X/43
TRAN- 04.04.77 TRANSFRESH CORP D13 =GB 1554-527
Inhibition of bacterial growth in fruit and vegetable - 88552A/49
TRIO- 20.04.77 TRIO ENG LTD AS D12 #SU -645-524
Fish storage chute on processing machines - 78525A/44
TURE/ 23.05.78 TUREAUD K A96 D21 (A14) #DL -136-923
Plastic jaw impression spoon - 48082A/27

UBEI 28.05.75 UBE INDUSTRIES KK D15 J01 =J7 9030-671
Activated carbon regeneration for effluent purificn. - 04705Y/03
UBEI 28.05.75 UBE INDUSTRIES KK D15 J01 =J7 9030-672
Activated carbon regeneration for effluent purificn. - 04706Y/03
UBEI 02.06.75 UBE INDUSTRIES KK D15 E36 =J7 9030-673
Regeneration of active carbon used in waste water treatment - 06334Y/04
UBEI 02.06.75 UBE INDUSTRIES KK D15 E36 =J7 9030-674
Regenerating active carbon used to treat waste water - 06335Y/04
UGIN 13.01.76 UGINE KUHLMANN D24 E12 (E17) =DS 2700-851
Sepg. linear from branched chain soaps using a lithium cpd. - 48761Y/28
UMEA= 06.09.77 UKR MEAT DAIRY IND D13 *SU -645-640
Low fat high protein butter prodn. - 78706B/43
UMEA= 30.09.77 UKR MEAT DAIRY IND D13 *SU -645-637
Mfr. of condensed milk prods. - 78703B/43
UMEA= 30.09.77 UKR MEAT DAIRY IND D13 *SU -645-639
Butter having high biological value prodn. - 78705B/43
UNDE- 19.07.77 UNDERBERG-HANDELS D16 =DL -137-246
Prepn. of bubbling, sparkling and champagne type wines - 84154A/47
UNIC 17.09.74 UNION CARBIDE CORP D13 =CA 1064-000
Grinding condiment esp. mustard at cryogenic temp. - 24418X/14
UNIC 27.01.78 UNION CARBIDE CORP D12 =SF 7900-292
Wrapping for food products esp. sausages - 56294B/31
UNIC 27.01.78 UNION CARBIDE CORP D12 =US 4171-381
Wrapping for food products esp. sausages - 56294B/31
UNIC 09.03.78 UNION CARBIDE CORP D12 =SW 7902-081
Inserting sizing disc into casing esp. for viscous meat emulsion - 56110B/30
UNIC 13.04.79 UNION CARBIDE CORP D12 #BE -875-599
Shirred sausage casing - 61398B/33
UNIL 06.09.72 LEVER BROTHERS CO D25 E12 =US 4171-291
Alkane sulphonate prodn - 23321V/13
UNIL 04.05.73 UNILEVER NV D12 =DS 2421-543
Reconstituted meat product contg. potato pulp - 80953V/47
UNIL 26.03.75 UNILEVER LTD A92 D11 =CA 1063-856
Prepn of cooked food prods in packages - 75689X/41
UNIL 14.03.77 UNILEVER LTD D16 =GB 1554-482
Non-dusting granulated enzyme compsn. prepn. - 71707A/40
UNIL 12.01.78 UNILEVER NV D21 (D25) =FR 2414-551
Washing compsn. contg. detergent and deodorant - 54833B/30
UNIL 12.01.78 UNILEVER NV D24 =FR 2414-552
Deodorising textile washing compsn. - 54834B/30
UNIL 13.01.78 UNILEVER NV D21 (D24 D25) =FR 2414-331
Deodorant compsn. for treating skin - 54853B/30
UNIL 13.01.78 UNILEVER NV D22 (D21) =FR 2414-332
Deodorising article for use on human skin - 54852B/30
UNIL 14.02.78 UNILEVER NV A97 D25 =J5 4118-405
Detergent and esp. dishwashing compsn. - 61747B/34
UNIL 15.02.78 UNILEVER NV A32 D22 =J5 4118-459
Rendering plastics foil water permeable - 63269B/35
UNIL 06.03.78 UNILEVER NV D21 E19 =SW 7901-983
Aq. liq. soap contg. sulphonated ester or amide - 66686B/37
UPJO 09.12.76 UPJOHN CO B02 D22 =GB 1554-517
Antibiotic 7-O-alkyl-nogarol cpds., some with antitumour activity - 43927A/24
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =US 4171-436
Decomposition prods. of rubradirin antibiotics - 84365A/47
UPJO 05.05.77 UPJOHN CO A60 B02 D22 E13 =US 4171-437
Decomposition prods. of rubradirin antibiotics - 84365A/47
*URAL= 26.12.75 URALS PETROLEUM INS D16 E17 H04 *SU -644-762
Liquid paraffin cpds. purificn. - 78583B/43
*USDC 23.03.78 US SEC OF COMMERCE B04 D16 *WP 7900-823
Neisseria gonorrhoeae vaccine - 79089B/43
*UYFL- 05.04.78 UNIV FLORIDA D21 L02 *DT 2910-335
Inorganic dental or surgical implant - 77620B/43
UYFL- 05.04.78 UNIV FLORIDA D21 L02 =NL 7902-497
Inorganic dental or surgical implant - 77620B/43
*UYLA= 24.02.76 LATV UNIV D16 *SU -644-824
Growth stimulant for microorganism cultivation - 78636B/43

VEKE- 27.07.71 VER KESSELWERKE AG D15 =DS 2137-453
Sewage sludge treatment plant - 09879U/08
VERW- 04.04.78 VERWEIJ A BANHET SIROOPW D11 =DT 2913-042
Automatic finishing of treacle-filled waffles - 54554B/30
VERW- 04.04.78 VERWEIJ A BV BANKET SIRO D11 =NL 7803-564
Automatic finishing of treacle-filled waffles - 54554B/30
*VLAD= 11.08.77 VLADIVOSTOK EPIDEMI D16 E12 *SU -644-834
Nutrient medium sterilising agent - 78640B/43
VOIJ 28.01.78 VOITH J M GMBH D15 E12 F09 =SF 7900-245
Purifying waste water from old paper processing - 58253B/32

*WAKP 08.04.78 WAKO PURE CHEM IND KK A60 D15 E16 (A14) *GB 2018-784
Polymerisation of water-soluble monomers e.g. acrylamide - 77796B/43
WARN 04.04.75 WARNER-LAMBERT CO D22 E36 J04 M13 =CA 1063-889
Platinum black catalyst on substrate - 77947X/42
*WASS- 16.06.78 VEB WASSERVERSORG A D15 *DL -137-219
Aerator for sewage sludge container - 77414B/43
*WATA 03.03.78 WATANABE YAKUHIM KOGY A96 B07 D22 *J5 4117-552
Hydrous vinyl acetate resin prodn. for poultice - 77954B/43
*WEIS- 05.04.78 GEB WEISS KG D15 *DT 2814-795
Sewage clarification system - 77496B/43
*WENK/ 08.04.78 WENK K D15 *DT 2815-327
Sewage aerator plant - 77523B/43
*WILS/ 07.04.77 WILSON E S C03 D22 *GB 1554-615
Disinfectant compsn. contg. quat. ammonium cpd. - 77746B/43
*WOLF/ 19.04.78 WOLF F D25 E33 *DL -136-826
Prodn. of waste softeners for detergents - 77279B/43

*YAMA/ 00.00.78 YAMAMOTO H B04 D16 *J5 4119-093
Prodn. of carcinostatic emitanin - 78167B/43
*YGOS 10.03.78 YAMAMOTO KAGAKU GOS KK D25 E12 (D15) *J5 4119-504
Decolourising coloured water used for flushing toilets etc. - 78294B/43
*YOSH 05.04.78 YOSHITOMI PHARM IND A97 C03 D22 F09 (A25 D15) *DT 2913-593
Microbicide for industrial cooling water and paper pulp - 77643B/43
*YSTG/ 12.04.78 YSTGAARD O M D15 J09 *GB 2018-812
Treatment of water-wet waste materials - 77800B/43

*ZHKO- 22.07.78 ZK-HOSPITAL GMBH D22 *DS 2832-279
Hospital appliances disinfection - 77471B/43

6732-F BD
A 6606-073 Q00 +
S 3786-142 V04 +
NL -144-663 W08 +
T 0000-114 R00
CA -873-315 S25
SU -633-488 B43

3382-R BD
U 0008-637 R14
DS 1695-830 B43 +

7094-R D
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FR 2019-629 R43
CH -505-760 S24
DS 1949-640 B43

6183-S DE
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DS 2008-010 B43

31979-T AD
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NL 7104-896 T45
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50085-T D
BE -778-472 T31
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FR 2123-356 T52
CA -943-428 V12
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SW 7506-189 X02
J5 4119-505 B43

08287-U AD
DT 2136-672 U07
DS 2136-672 B43

09879-U D
DT 2137-453 U08
DS 2137-453 B43

57237-U D
NL 7302-638 U39
DT 2308-904 U40
J4 8101-774 V09
CH -551-792 V36
GB 1402-365 W32
FR 2174-975 W43
BE -796-306 U35
US 4171-226 B43

71328-U ADG
NL 7306-180 U47
BE -799-031 U47
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J4 9092-150 V45
GB 1382-033 W05
US 3904-796 W38
CA 1003-712 Y05
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CA -987-894 X20
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J7 9030-236 B43

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CS 7308-800 X02
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SU -627-160 B30
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FR 2251-553 W36
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27206-V D
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BE -808-688 V17
DT 2358-210 V30
GB 1455-071 X46
FR 2333-860 Y37
SU -644-831 B43

31471-V CDF
J4 8096-360 V17
J7 9030-936 B43

31526-V ACD
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J7 9030-021 B43

47535-V D
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NL 7317-134 V27
BE -815-923 V43
J5 0029-775 W21
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BR 7404-897 X10
GB 1455-146 X46
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CA 1006-751 Y13
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J7 9017-019 B29
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62419-V AD
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68073-V ABD
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CA 1063-952 B43

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OE 7403-644 X46
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OE 7405-807 W50
US 4017-565 Y16
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SF 7402-912 W28
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DK 7405-282 W31
J5 0076-328 W34
SW 7412-711 W36
PT --62-752 W37
ZA 7406-264 W51
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NO 7700-918 Y19
CH -597-287 A15
HU T015-055 A27
IL --45-755 A28
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CA 1056-568 B27
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DK 7405-421 W29
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J5 0121-293 W47
ZA 7406-544 W51
OE 7408-364 Y18 +
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GB 1481-809 Y31
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J4 8021-666 B43 +
J7 9029-994 B43 +

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80548-W ADF
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FR 2272-204 X11
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GB 1493-661 Y48
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23297-X ADEJ
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24418-X D
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CA 1064-000 B43

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OE 7407-967 X24
DK 7405-336 X27
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ZA 7506-265 X44
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NL 7511-460 X18
DK 7504-083 X29
ZA 7506-407 X44
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NL -160-607 B26
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31561-X AD
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GB 1508-626 A17
CA 1063-903 B43

32338-X ADE
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US 4088-598 A26
GB 1518-670 A29
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CA 1063-905 B43

38027-X D
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CA 1063-860 B43

38154-X D
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US 4147-693 B15 +
IL --48-538 B34 +
CA 1064-020 B43 +

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SW 7607-795 Y13
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DS 2621-836 B43

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DK 7900-105
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GB 2018-562

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SF 7800-440
J5 4107-910
FR 2414-551

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SF 7800-439
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J5 4101-444
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J5 4101-443
FR 2414-331

54856-B BDE
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GB 2012-264
NL 7812-253
J5 4100-361
FR 2414-488

54864-B D
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FR 2414-550

56110-B D
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DT 2908-784 B38
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NL 7901-883 B39
BR 7901-395 B42
SW 7902-081 B43

56294-B D
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DT 2902-754 B32
NL 7900-650 B33
GB 2013-472 B33
SW 7900-720 B37
BR 7900-636 B37
J5 4113-469 B42
SF 7900-292 B43
US 4171-381 B43

56315-B D
BE -875-083 B31+
DT 2912-322 B41+
NL 7902-076 B42+
GB 2018-565 B43+

56329-B D
BE -875-143 B31
DT 2813-555 B41
NL 7902-442 B42
GB 2018-579 B43

58020-B D
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DT 2904-029 B33
GB 2013-474 B33
NL 7900-758 B34
DK 7800-496 B38
NO 7900-344 B38
SW 7900-927 B38
SF 7900-330 B43

58060-B D
BE -875-360 B32+
NL 7902-169 B43+
DT 2913-457 B43+

58085-B D
CA 1058-776 B32
GB 1554-464 B43+

58253-B DEF
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GB 2013-169 B32
SW 7900-652 B37
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J5 4110-652 B41
SF 7900-245 B43

58290-B BD
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PT --69-007 B32
NL 7900-057 B33
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DK 7900-382 B37
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SW 7900-551 B38
J5 4117-038 B42
SF 7803-861 B43

58294-B BD
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SW 7900-552 B38
SF 7803-860 B43

58336-B DH
DT 2900-404 B32
GB 2018-687 B43

58435-B BD
EP ---3-341 B32+
GB 2014-150 B34+
DK 7900-287 B37+
NO 7900-229 B37+
PT --69-126 B41+
SF 7900-240 B43+

59829-B D
BE -874-095 B33
DT 2905-327 B34
NL 7901-076 B35
DK 7900-579 B39
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NO 7900-452 B40
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59870-B D
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GB 2018-736 B43

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GB 2013-646 B33
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SF 7900-321 B43

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GB 2013-716 B33
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DK 7900-377 B37
SW 7801-133 B38
J5 4110-387 B41
SF 7900-258 B43

61398-B D
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61669-B ABD
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NL 7901-152 B35
GB 2014-584 B35
J5 4119-025 B43

61720-B DJ
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NL 7901-000 B35
GB 2015-748 B37
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61730-B D
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NL 7900-874 B34
GB 2014-414 B34
DK 7900-344 B38
SW 7801-280 B38
SF 7900-283 B43

61747-B AD
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GB 2014-181 B34+
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NL 7901-031 B35
J5 4118-405 B43

61777-B BD
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EP ---3-616 B34
NL 7901-182 B35
DK 7900-611 B39
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SW 7901-276 B40
SF 7900-486 B43

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DK 7900-640 B40
NO 7900-482 B40
SW 7900-648 B40
SF 7900-487 B43

61791-B DE
EP ---3-515 B34+
J5 4117-460 B43+

61831-B BCD
EP ---3-644 B34+
DK 7900-435 B38+
DT 2902-889 B40+
J5 4117-781 B43+
SF 7900-335 B43+

61866-B CD
EP ---3-717 B34
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J5 4117-425 B43
SF 7900-467 B43

63162-B AD
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GB 2014-977 B36
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DK 7900-637 B40
SW 7901-314 B40
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64806-B DE
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NL 7901-038 B36
GB 2015-523 B37
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64839-B DJ
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GB 2014-872 B36
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66325-B DE
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66344-B AD
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DK 7900-986 B43

66505-B D
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BR 7901-295 B43

66600-B BDE
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GB 2018-246 B42
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66679-B BD
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66680-B BD
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66686-B DE
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J5 4117-506 B43

68344-B D
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68362-B ADJ
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GB 2016-473 B39
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68372-B BCD
DT 2908-639 B38
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DK 7900-767 B43
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68393-B BD
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GB 2017-686 B41
J5 4119-094 B43
DK 7900-858 B43
SW 7902-005 B43

68397-B DF
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BR 7901-382 B42
SW 7901-898 B43
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68443-B ADEG
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68504-B DE
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70150-B BDE
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NL 7901-912 B39
GB 2018-748 B43

70165-B D
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NL 7802-980 B41+
DK 7800-990 B43+
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SW 7901-896 B43

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J5 4119-092 B43

71082-B BD
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DT 2810-860 B40+
DK 7900-989 B43+
SW 7802-470 B43+

71740-B CD
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DS 2835-381 B43

73612-B D
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BE -875-338 B41
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GB 2018-303 B42
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SW 7802-392 B42
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GB 2018-678 B43

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GB 2018-137 B42
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75603-B DE
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GB 2018-561 B43

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75608-B BCD
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US 4171-379 B43

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75693-B CD
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75845-B D
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77170-B BD
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GB 2018-778 B43

77171-B BDJ
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77179-B ABD
BE -875-657 B43

77207-B CD
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77212-B BDJ
BE -877-060 B43

77217-B BDJK
BE -877-090 B43+

77230-B D
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77233-B D
BE -877-150 B43

77237-B D
BE -877-162 B43

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77264-B D
CA 1064-169 B43

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DT 2814-922 B43

77506-B ADF
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77507-B BDJ
DT 2815-029 B43

77520-B D
DT 2815-269 B43+

77523-B D
DT 2815-327 B43

77530-B DE
DT 2815-400 B43+

77544-B D
DT 2815-507 B43

77558-B ABDJ
DT 2815-758 B43

77563-B D
DT 2815-804 B43

77579-B DEJ
DT 2815-965 B43

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77596-B D
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77638-B AD
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77650-B CDH
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77664-B AD
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77666-B D
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77667-B D
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77672-B BDJ
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GB 2018-988 B43+

77682-B ABD
DT 2914-822 B43+

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77707-B D
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FR 2414-726 B43

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GB 1554-559 B43

77746-B CD
GB 1554-615 B43

77748-B D
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77771-B D
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78046-B DE
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78114-B ADE
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78115-B CD
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78142-B BDJ
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78423-B DEM
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78426-B DEJK
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78446-B D
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78447-B D
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J5 0082-854 B43+

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J5 2069-794 B43

78496-B ABDJ
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78526-B D
RD -186-059 B43

78558-B D
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78562-B DE
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78566-B D
SU -632-202 B43

78578-B D
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78583-B DEH
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78602-B BDE
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78896-B DE
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78974-B DEJ
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78979-B D
US 4171-263 B43+

78980-B DFHJ
US 4171-264 B43+

78992-B DE
US 4171-280 B43+

78997-B ADH
US 4171-296 B43+

79011-B CDE
US 4171-342 B43+

79020-B BCD
US 4171-354 B43

79028-B D
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79029-B CD
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79063-B BCDE
US 4171-452 B43+

79078-B D
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79089-B BD
WP 7900-823 B43

79095-B D
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ABSTRACTS

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DETERGENTS

COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	23 OCT - 29 OCT 79	875,767 - 875,944
-Non Delayed	15 OCT 79	877,215 - 877,388
BRAZIL	16 OCT 79	7,900,039 - 7,907,825
CANADA	16 OCT 79	1,064,201 - 1,604,650
DENMARK	8 OCT 79	7,801,101 - 7,901,111
W. GERMANY		
-DAS	25 OCT 79	1,442,420 - 2,913,108
-OLS	25 OCT 79	2,350,596 - 2,916,940
EUROPE	31 OCT 79	4,843 - 5,135
FRANCE*	17 AUG 79 (BOPI 21 SEP 79)	2,414,853 - 2,415,418
UNITED KINGDOM	31 OCT 79	1,554,721 - 1,555,000 2,019,181 - 2,019,700
ISRAEL	30 SEP 79	44,167 - 55,973
JAPAN		
-Unexamined	—	47,003,390 - 53,087,290
	19 SEP - 26 SEP 79	54,120,401 - 54,124,200
-Examined	4 OCT - 10 OCT 79	79,030,961 - 79,031,880
NETHERLANDS	15 OCT 79	161,650 - 161,965
	15 OCT - 21 OCT 79	7,803,794 - 7,903,013
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PORTUGAL	10 OCT 79	60,251 - 69,295
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SWEDEN	15 OCT 79	7,801,369 - 7,907,387
UNITED STATES		
-Reissues	23 OCT 79	Re30,120 - Re30,126
-Patents	23 OCT 79	4,171,542 - 4,172,291

*Printed patents actually published mid - late October, 1979

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Arrangement of Abstracts

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See inside cover for further details.

A	Polymer Chemistry
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AE	Polymer & General Chemistry
B	Pharmaceuticals
C	Agricultural Chemistry
D	Food, Disinfectants, Detergents
E	General Chemistry
E+	General Chemistry Applns.
F	Textiles, Paper, Cellulose
G	Printing, Coating, Photographic Chemistry
H	Petroleum
J	Chemical Engineering
K	Nucleonics, Explosives, Protection
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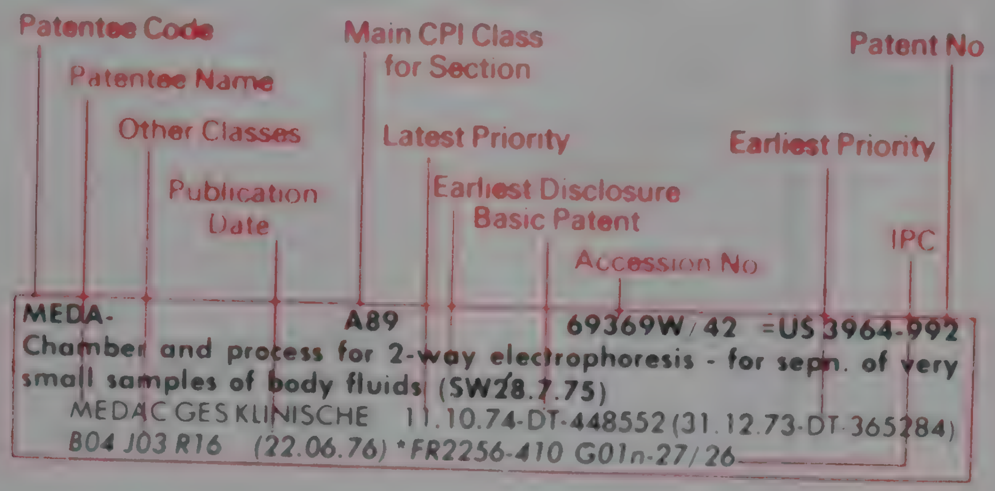
See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.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Latest Priority
Earliest Disclosure
Basic Patent
Accession No
Patent No
Earliest Priority
IPC

MEDA- **A89** **69369W/42 =US 3964-992**
Chamber and process for 2-way electrophoresis - for sepn. of very small samples of body fluids (SW28.7.75)
MEDAC GES KLINISCHE 11.10.74-DT-448552 (31.12.73-DT-365284)
*B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26*

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11: BAKING

VENA- D11 42022U/30 =DS 2263-932
Thin dough strip - continuous prodn by rolling stretching laterally and stabilising
VER NAHRUNGSMITTELI (VER -) 04.01.72-OE-000042
*(25.10.79) *NL7300-102 A21c-03/02*

A plant to prepare strands of dough with a high gluten content, e.g. for the manufacture of strudel pastry, includes rolls to produce a strand of dough of greater thickness than is ultimately required, followed by a stretching operation at right angles to the direction of rolling. The pulled strand is held in the stretched width, pref. until its moisture content, has dropped to 17-20 wt.%. During this holding time (twice the stretching time) the dough can be heated and/or aerated. This prevents later contraction of the strand of dough and makes it suitable for continuous subsquent processing. 20.12.72 as 263932 (7pp39)

PILL D11 71633V/41 #DS 2325-948
Hydroprocessed wheat product - comprising wheat starch granules and homogeneous gluten protein particles
PILLSBURY CO 16.05.73-GB-023278 (22.05.73-DT-325948)
*(D13) (25.10.79) *GB1369-947 A21d-02*

A wheat prod. obtd. by water treatment comprises starch granules which are intact, ungelatinise and not surrounded by gluten protein; undenatured gluten protein in smoothly contoured particles which contain only a small amt. of the surrounded starch and opt. the total embryo and the total aleuron but no husk. The normal cell structure of the endosperm is practically completely broken up. The wheat prod. is excellent for making dough. 22.5.73 as 325948 (12pp068)

EISV- ★ D11 79190B/44 ★DS 2913-108
Dough raising cabinet air humidifier - using condensate collected and evaporated by electric steam generator
EISVOIGT VOIGTLANDE 02.04.79-DT-913108
(25.10.79) A21c-13

The air which is circulated in a dough raising cabinet to preserve and raise pastry dough is humidified by evaporation of water. The condensate, which drips off the cooler elements when the deposited rim thaws, is collected, partly evaporated by electric heating, and recycled to the circulating air.

This greatly simplified design needs no connection to a water main so that the appliance can be installed anywhere. Cleaning is only required at long intervals. 2.4.79 as 913108 (4pp39)

DANG- ★ D11 79249B/44 ★DT 2816-648
Filled wafer spreading machine - automatically controls filling layer thickness by counted number and weight
DANGER H KG 17.04.78-DT-816648
(25.10.79) A21c-15/02

A machine to spread a filling paste on pastry such as wafers counts the number of the arriving pieces and adjusts the spreading speed accordingly. The amount of the paste, spread over the wafers, is controlled in addition by the weight of the finished stack of wafers. The machine achieves uniform results in spite of the fluctuating flow rate to suit variations in the spped of the preceding bakery equipment.

Specifically a belt conveyor takes the wafers to a switch which can be set by a motor either to conveyor. Both run faster than the spreader so that the single wafers are pushed into a continuous strand. 17.4.78 as 816648 (12pp19)

LABA ★ D11 79337B/44 ★DT 2915-449
Film-forming lipoprotein complex for baking - is prepd. by reacting gliadin, opt. as gluten, with anionic lipid
LABATT J LTD 17.04.78-US-897283
(25.10.79) A21d-02/26 C07g-07

New lipoprotein complex, (I) contains gliadin, (II) reacted with an anionic lipid (III). A protein compsn. is claimed contg. (I) prepd. in situ by treating wet gluten with (III), esp. (I) prepd. in situ by (a) forming a wheat flour- or stirred dough in the presence of (III) and then (b) separating starch, fibre-contg. and soluble components. (III) may be Na dodecyl sulphate, a diacetyl tartrate of a fatty acid or a palmitoyl-1-aspartate of a fatty acid.

(I) can replace vital- and modified wheat gluten in baking. (I) does not coalesce in a dil. dispersion e.g. a 2% NaCl soln., but is dispersed in surroundings which are limited w.r.t. moisture, and can be mixed with natural wheat-proteins. (I) have improved absorption, film-formation (achieving film-forming index > 3) and body vol. properties. 17.4.79 as 915449 (48pp200)

ROYA- D11 16778Y/10 =GB 1554-916
Filling and closing machine for sponge sandwiches - aligns, positions, applies filling and closes halves together, without damage
ROYAL CAKE CO INC 22.08.75-US-606931
*+P62 Q31 Q35 (31.10.79) *DT2637-521 A21c-15*

Automatic sandwich cookie making machine has an upper and lower conveyor receiving via a divider plates equal numbers of top and bottom sections from a baking oven. A filling device deposits material onto cookie bottom sections travelling on the lower conveyor.

A deadplate positioned above the upper conveyor serves to collect and align the upper sections and these are advanced by a pusher plate onto the top of the lower sections covered with filling material. The consistancy and shape of the filling is selected to ensure that no further action is required to bond the cookie together.

The system provides a fully automated system esp. suitable for handling soft or crushable cookies. 20.8.76 as 034707 (6pp397)

D12: MEAT; FISH PROCESSING

WEIS/ D12 77401T/49 =DS 2123-350
Scalding/debristling machine - for pigs carcases with fixed trough and rocking roller assembly
WEISS A (WEI /) 11.05.71-DT-123350 (00.00.70-DT-061997)
*(25.10.79) *DT2123-350 A22b-05/08*

The Parent Patent describes a machine for scalding and removing bristles from pigs carcasses in a scalding water tank with two revolving bristle removing rolls. Method requires a tilting of the complete tank through a certain angle.

The novelty is that the tank remains stationary and the ends of the rolls are mounted in common crosspieces. The rolls which are driven by a common chain drive in the same direction are now reversed when the crosspieces are swung from one working position (left down, right up) to a second working position (left up, right down)

This requires less powerful drives and simplifies the design. There is now no risk of spilling hot water. 11.5.71

as 123350 Add to 2061997 (4pp39)

CENS D12 13338X/08 =DS 2532-309
Soya bean protein-based meat substitute - whose structure more closely resembles that of natural meat
CENTRAL SOYA CO INC 02.08.74-US-494099
*(25.10.79) *DT2532-309 A23j-03*

Meat substitute comprises longitudinally and compactly packed linseed or rape protein fibres, with the general appearance of sliced meat. Prepn. of these foodstuffs comprises extrusion of a defatted mixt. of linseed and rape plant materials (contg. ≥40% protein, based on the dried materials; and 30-60 wt.% water), at <100°C and under pressure.

The prods. pass through successive extrusion zones with reduction in temp. and pressure, to a final extrusion at <7kp/cm². 18. 7. 75 as 532309 (8pp047)

MUNC- D12 11937B/07 =DS 2744-456
Machine to cut open and clean stomach of chickens, etc. - comprises rotary carrier wheel with pockets contg. the stomach which is carried across the edge of a blade
MUNCHMEYER & CO 03.10.77-DT-744456
*(25.10.79) *BE-870-932 A22c-21*

A machine for slitting and cleaning out the stomachs of poultry consists of two discs, between which an eccentric disc forms a ring chamber of steadily reduced cross-section. Stomachs, charged into the wide part, are compressed when grooves take them to the narrower part where a circular blade enters the peripheral wall and slits them open. A herringbone-type of spreader opens out each slit stomach so that its contents can drop out. A revolving brush completes the cleaning operation.

The machine can deal with the stomachs of poultry of varying sizes and functions reliably without causing any over- or under-cutting. 3. 10. 77 as 744456 (6pp39)

NMHB ★ D12 79186B/44 ★DS 2832-259
Fish gutting machine - with pressurised water nozzle and revolving impeller of suction pump
NORDISCH MASCH R BAADER 22.07.78-DT-832259
(25.10.79) A22c-25/14

Fish gutter slits the central cavity and injects a liq. to break up the entrails. The gullet, small intestine and tendons securing the entrails are severed and extracted by pump suction.

Specifically a slitting blade which cuts open the fish on the conveyor is followed by a slotted nozzle where pressurised water is injected. A suction pump consists of a revolving rotor shaft with a radial-arm impeller and removes the entrails.

Appts. can deal with fish effectively even when they are ready for spawning or the entrails are difficult to dislodge (tunny fish). 22. 7. 78 as 832259 (4pp39)

SUPR- ★ D12 79241B/44 ★DT 2816-521
Oil and fat raw material processing - by distributing as film along inside walls of vertical heated cylinder
SUPRATON ZUCKER F J 17.04.78-DT-816521
(D23) (25.10.79) C11b-01/12

Raw materials with an oil and fat content, such as suet and other byproducts of abattoirs, are processed by reducing the size to under 15 x 15 mm and by feeding the paste to a vertical cylinder. This is surrounded on its shell by heating jackets, using steam or a liquid. Revolving scraper arms distribute the material in a uniform thin layer over the inside walls.

This processing method generates neither liquid wastes nor waste gases os that it does not pollute the environment. The product is treated gently so that the formation of fatty acids or perixide is eliminated. 17.4.78 as 816521 (10pp39)

WENZ/ ★ D12 79254B/44 ★DT 2816-865
Disintegrated blood albumin used as food prod. additive - is derived from slaughter animal chromo:protein and improves stability and juiciness
WENZEL S 18.04.78-DT-816865
(25.10.79) A22c-11 A231-01/30

Decomposed blood albumin, (I) derived from the chromoproteids of slaughter animals, is used as a food additive, esp. in meat article prodn.

(I) set to pH 5.4-6.6 (5.8-6.2) improves the taste, consistency or stability of foods, and esp. the juiciness o sausages. The emulsifying and water-absorption capacity of (I) is high. (I) may also be used in soup cubes, protein diets and in soup- and sauce-powders.

Quantity of (I), as dry solids w.r.t. roast material in sausage mfr. may be 0.2-5 (0.5-2.5) esp. 0.8-1.5 wt% (I) may be derived from blood by haemolysis at pH < 4, pptn. of globin protein acid adduct, separation from organic pptn. liq. and processing.

'Lyon sausage' charges contained 3.2 kg pork, 1.8 kg lard, 130 g nitrite, 12.5 g white pepper, 5 g nutmeg, 2.5g cardamon, 1 pinch cinnamon and 5 g sugar. The addn. of 250 g 10% (I) soln. or 25 g lyophilised (I) improved elastic consistency, pink-red colour, gloss of cutting surface, meat taste and juiciness. 18.4.78 as 816865 (16pp200)

MICR- ★ D12 79292B/44 ★DT 2856-821
Bacterial meat fermentation esp. to (semi) dry sausages - using mixt. of Micrococcus varians and lactic acid-generating bacteria
MICROLIFE TECHNICS 07.03.78-DT-856821 (06.09.77-US-830917)
(D16) (25.10.79) A22c-11 A23l-01/31

Dry and semi-dry sausage and other fermented meat prod. are prepd. by fermenting the meat with a compsn. contg. as active components, Micrococcus varians, (I), and >1 lactic acid-yielding bacterium, (II), to lower pH below 5.4 to >4.8.

The nitrate-reducing function of (I) is not inhibited. The sausage meat acquires a red, bright shade in the presence of edible nitrate and/or nitrate, without a surrounding 'grey ring'. Botulism toxin bacteria growth is inhibited. Use of (I) and (II) improves taste and aroma. 7.3.78 as 856821 Div.ex 2808759 (18pp200)

DORN- D12 42497B/23 =EP ---4-933
Band saw for meat and bones - with retractable holding plate for large pieces
MASCH DORNHAN GMBH 26.04.78-DT-818147
*+P54 P56 P62 (31.10.79) *DS2818-147 A22b-05/20 +A22c-17/02 B23d-55/04 B23q-01/02 B26d-01/46 B26d-07*
D/S: E(BE, CH, FR, GB, IT, LU, NL, SW).

A band saw for slicing meat and bones consists of a fixed support table through which a saw blade passes. Towards the rear, an adjustable portioning plate determines the desired slice thickness. A steady plate on the operator side can slide with its bar in a hinged guide bush. When the bush is swung back through 90°, the steady plate lies flush with the support table.

A safe support is provided for very large pieces of meat which can now be advanced by hand against the portioning plate without risk of injuries.

10.4.79 as 101101.(10pp39).
(G) ISR:-

SWIF D12 73066A/41 =GB 1554-836
Poultry tendon extraction system - with first metatarsus bone breaking station and second shear application station
SWIFT & CO 28.03.77-US-782171
*(31.10.79) *DT2809-182 A22c-21*

Method of pulling tendons from the legs of poultry carcass is effected by carrying the carcass by its legs and breaking the lower legs without appreciably tearing the skin. Oppositely directed spaced shearing forces are applied across the break zone causing the skin to be severed together with the foot and for the tendons to be drawn from each upper leg of the carcass.

The system can be used on straight line conveyors and avoids the need for separate handling of the carcass. It is esp. suitable for use when processing turkeys. 6. 2. 78 as 004736 (7pp397)

GENM D12 31607V/17 =J7 9031-060
Fibrous protein prod - prepd by heating keratin protein and water mixt.
GENERAL MILLS INC 31.05.72-JA-053476
*(04.10.79) *J49020-350 +A23j-01/10 A23j-03*

Prepns. contg. keratin protein, and proteinous substance consisting of keratine protein and water, are heated to ≥ 70°C the weight ratio of the protein in liquid being about 5:2 to 5:9, to give prod. 31. 5. 72 as 053476 A23J-

3/00: 1/10 (4.10.79) GENERAL MILLS INC. (9pp) (J49020350)

MEYN/ D12 36956W/22 =NL-161-658
Automatic removal of poultry from transporter - from which the birds hang by the ankles in U shaped supports
MEYN P 15.11.73-NL-015638
*+Q35 (15.10.79) *NL7315-638 A22c-21*

Slaughtered fowl suspended by their ankle joints from carrying hooks attached to a moving conveyor are removed from the hooks by passing them through a U-turn in the conveying system in which the carrying hooks are restrained to hang vertically whilst an inclined guide rail placed below the carrying point causes the fowl to be lifted clear of the hooks and removed from the conveying system.

In order to ensure that the hooks are held in a rigid vertical stance during this operation, they are gripped between a wheel and a U formed guide, the wheel being equipped with teeth so that there is no possibility of the hooks moving either radially or tangentially relative to the wheel perimeter. 15.11.73 as 015638. (7pp1370)

UMEA= ★ D12 80375B/44 ★SU-646-972
Animals slaughtering installation - has feeding conveyors, profiled guides, plate like grippers and head-severing disc knife with electrical stunning rods
UKR MEAT DAIRY 03.08.77-SU-514804
(18.02.79) A22b-03/10

Device for slaughtering small animals by severing their heads, is similar to that of Parent Cert. No. 526335, which comprised a disc knife and two parallel chain conveyors with plate grippers to hold the animal in place. Now to ensure that first the animal is stunned the device is provided with two symmetrically-arranged drums, each of which is mounted above one of the conveyors in the space between its arms and have radially-distributed movable rods established so that they can be rotated by the conveyor. At the start of the grid base plate there are profiled guides for the animals.

Tkach, N.V., Vitrovchak, B.N., Zhmailo, B.P. Bul. 6/15.2.79. 3.8.77 as 514804 Add to 526335 (2pp29)

NMHB D12 41910A/23 #SU-648-051
Fish processor with endless conveyor having fish troughs - and a feed section comprising conveyor belts forming a V/shape
NORDISCH MASCH R BAADER 13.08.76-US-714337 (31.08.76-SU-393335)
*(18.02.79) *US4084-294 A22c-25/06*

Device for conveying fish through a processing machine, consists of a conveyor with trays for the fish arranged transversely, plus two additional conveyors mounted as a pair so that a V-shaped gulley is formed between them. Driving rollers for these conveyors are placed at the inlet end and are set at an angle to the vertical. The variety of fish that can be processed is increased by disposing the paired conveyors between the arms of the tray conveyor, with the trays installed so that they can rotate through 90° to offload the fish into the gulley between the paired conveyors. The rollers at the exit end of the paired conveyors are axially parallel and on spring-loaded brackets fastened to rotatable guides, which can be parted. A measuring stop linked to the spring-loaded brackets is placed between the exit end rollers and can turn about the horizontal axis. Dorendorf, F. Bul. 6/15.2.79. 31.8.76 as 393335 (4pp29)

KOMP= ★ D12 80621B/44 ★SU-648-189
Artificial sausage skin production - by coagulating extruded collagen mass into tubular shape in salt solution maintained constant concentration
KOMPLEKS POULTRY IN 27.10.77-SU-538688
A97 (28.02.79) A22c-13

Device for the coagulation of collagen tubes during the production of artificial sausage skins comprises a bath with an overflow pipe, plus pipes inside to supply and withdraw the soln. and admit air, and a container for the soln., with a pump. Collagen tubes of constant diameter are obtd. by installing another smaller container in communication with the overflow pipe. This also contains pipes for admitting the soln. and allowing it to flow away, but is mounted above the overflow pipe on the bath. The end of the pipe which feeds in the solution is placed above the pipe through which the soln. flows out.

Pankov, N.F., Duma, G. Bul. 7/25.2.79. 27.10.77 as 538688 (3pp29)

METZ/ ★ D12 80681B/44 ★US 4171-747
Sorter for live shrimps - with rotating disc and overlying gauging strip
METZGER S J 19.08.77-US-826172
P43 (23.10.79) B07c-09

Shrimps are size sorted in an appts. which comprises a housing with a rotatable shaft fixed to it. At least one disc is fixed to and rotates with the shaft. A gauging strip bifurcated at its terminal end into inner and outer branches is fixed to the housing and is positioned above and parallel to the upper surface of the disc inwardly of the disc perimeter. The strip defines a gauging gap between its lower edge and the surface of the disc.

An outer wall surrounds the disc but erminates prior to the bifurcated terminal end of the strip. The shrimps fall onto the disc inwardly of the gauging strip ahead of its bifurcated end. As the shaft rotates the shrimps are impelled towards the perimeter to be separated by the gauging gap. Two product chutes remove the sorted shrimp from the region of the disc.

The appts. can successfully sort live shrimp without damaging them so that undersized shrimps can be returned to the sea for further growth. 19.8.77 as 826172(23pp295)

EXTR- D12 55465A/31 =US 4172-153
Chopped fish compsns. - of improved storage stability when frozen, contain gelatin hydrolysate
EXTRACO AB 26.01.77-SW-000821
*(23.10.79) *DT2803-417 A23b-04/08*

Minced fish meat is improved in its protein stability during frozen storage by adding $\geqslant 0.5$ (> 1.5) wt.% based on the meat of a gelatin hydrolysate. The hydrolysate comprises collagen or gelatin which have been hydrolysed to such an extent that their gel-forming properties have been lost.

Suitably the meat is whole minced meat prepd. using skin and bone separators. Taste and odour of the fish mince are not impaired and texture of the prod. is retained during storage. 19.1.78 as 870795 (3pp945)

See Also

D13 US 4171668 D15 J7 9031304

D13: OTHER FOODSTUFFS

DUCH/ ★ D13 79135B/44 ★BE-877-260
Non-digestible expanded perlite granules as pig feed additive - allows addition of vitamin(s) and oligo-elements, gives an improved carcass and allows excrement to form excellent manure (OE 15.5.79)
DUCHSTEIN S 27.06.78-OE-004659
C03 (15.10.79) A23k-01

Pig feed which is fed 'ad libitum' (on demand) contains a non-digestible, granular, porous additive comprising expanded Perlite granules having a size of 0-5mm (pref. 0-2mm). Generally the expanded Perlite additive comprises 10-50 vol. % of the feed. The feed may also contain physiological and/or medicament additives especially oligo-elements and vitamins.

The expanded Perlite is inert (has no toxic effects) whilst passing through the gastro-intestinal tract of the pigs and forms a suitable vehicle for introducing oligo-elements and vitamins. Addition of the Perlite allows the pig excrement to be formed into an excellent manure suitable for plant growth and avoids previous problems associated with pig excrement as a manure. The addition of the expanded Perlite to feeds for fattening pigs tends to give an improved carcass avoiding irrigation of flesh with blood at slaughter. 26. 6. 79 as 877260 (10pp395)

CORP D13 57950V/32 =DS 2303-572

Dry powder for multilayer dessert products - contain protein, starch, gelatine and sweeteners

MAIZENA GMBH 25.01.73-DT-303572
*(25.10.79) *NL7400-891 A23l-01/18*

A multilayered dessert is made from a mixt. in 373ml. aq. liq. of 0.5-20 g dried egg white, 2-20 g cold-soluble gelatin powder, 2-20g swellable starch, 20-150g sweetener and opt. 0.2-5.0g vegetable binder and small amts. of flavourings, vitamins dyes and other known ingredients The ingredients are mixed together in the cold, beaten in a mixer at low velocity and the mass allowed to stand and separate into ⩾2 layers. 25. 1. 73 as 303572 (4pp068)

NEST D13 13046X/08 =DS 2445-392

Low-calorie edible creams prepn by homogenisation - of mixt contg water, starch, protein, fat and emulsifying fat and final heat treatment

SOC PROD NESTLE SA 06.09.74-CH-012126
*(25.10.79) *BE-831-919 A23l-01/18*

Prepn. of nutrient cream with low energy content comprises homogenisation of a heated aqueous mixt. contg. thickening agent based on starch, fats, proteins, and opt. sugar for ⩾10 min. at 80-130°C/100 atmos. Pref. compsns comprise water, (50-90 wt.%); cacao ester or fruit essence (10-35 wt.%); protein, (5-25wt.%); fats (5-35 wt.%, of which 1-11 wt.% is emulsifying fats); and sugar, (20-55wt.%). 23. 9. 74 as 445392 (4pp047)

POLI- D13 59122W/36 =DS 2507-385

Curing agent and preservative for food - recovered from cellulose dry distn. jars or smoke by extn. and two-step distn.

POLITECH LODZKA (LODP- MIES-) 22.02.74-PO-169004
*+P15 (25.10.79) *DT2507-385 A23l-01/23*

Prepn. of smoking components comprises extn. and distn. of tars and/or condensate from cellulose and/or lignin raw materials in the presence or absence of O_2. The tars and condensates are extracted with aq. H_2SO_4 or H_3PO_4 and the lower phase is washed with $NaHCO_3$ or satd. aq. NaCl; the residue is distd. in an inert atmos. in two stages rejecting a fore-run at 100-110°/30-20mm and collecting a fraction of b. pt. up to 250° at 10mm.

Glycerol and adsorbents such as metal powders, active C, SiO_2 gel or molecular sieves may be added to the distn. mixts. to improve sepn. The prods. have distinctive smoking aromas. 20. 2. 75 as 507385 (5pp047)

PROC D13 33924X/18 =DS 2613-786

Fortifying protein foods deficient in sulphur contg. amino acids - by adding N-acyl esters of methionine or cyst(e)ine

PROCTER & GAMBLE CO 02.04.75-US-561737
*C03 E16 (D16) (25.10.79) *US3952-115 A23j-03 A23k-01/16 A23l-01/30*

Protein nutrients containing inadequate proportions of aminoacids based on sulphur are reinforced by addn. of N-acyl-L-methionine esters, N,N'-acyl-L-cystine esters or N-acyl-L-cysteine esters in which the acyl groups are 1-9C (esp. 1-4C) alkanoyl and the esters are derived from 1-22C (esp. 1-10C) fatty alcohols. Pref. additives are the formyl- or N-acetyl methyl or ethyl esters. 31. 3. 76 as 613786 (8pp047)

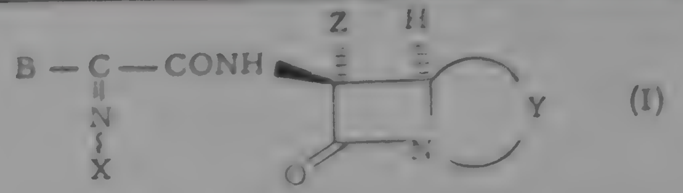
FARB ★ D13 79405B/44 ★EP ---4-956

Imino-acetamido beta-lactam antibiotic derivs. - used as broad spectrum antibacterials, feed additives, antioxidants and preservatives

BAYER AG 26.04.78-DT-818263
B02 C02 E13 (D22) (31.10.79) A23k-01/17 A61k-31/54 C07d-499/64 C07d-501/20

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

β-Lactams of formula (I) are new:



(I)

(B is opt. substd. 5-6 membered heterocyclic ring or op substd. phenyl;
Z is H or lower alkoxy;
X is NR_1R_2, $-N{=}CR_3R_4$, $-N\frown E_1$ or $-N{=}C\frown E_2$;
Y, E_1 and E_2 are divalent organic gps.;
R_1-R_4 are each H; an opt. substd. alkyl, alkenyl, alkadienyl, alkynyl, cycloalkyl, cycloalkenyl, cycloalkadieny aryl or heterocyclyl gp.; or acyl).

(I) are broad-spectrum antibacterial agents esp. effective against Enterobacteriaceae, partic. β-lactamase-forming strains. They can be used in human or veterinary medicine in daily doses of 5-1000 mg/kg orally or parenterally, opt. in combination with other antibiotics, or β-lactamase inhibitors.

(I) can also be used as animal feedstuff additives for promoting growth and improving feed utilisation, as anti oxidants and as preservatives e.g. for polymers, lubricants, dyes, fibres, leather, paper, wood, foods and water. 17.4.79 as 101153 (71pp941)

(G) ISR: DT1770031; DT1770033; GB2000139.

HUTI/ ★ D13 79483B/44 ★FR 2414-8

Mfr. and packaging of cream cheese in plastic pots - in whic fermentation takes place sealed off from ambient air

HUTIN B 04.01.78-FR-000167
A92 P13 Q31 (21.09.79) A01j-25 B65b-03/02 B65b-25/06

Mfr. and packaging a cream cheese takes place in a moul ed plastic, open-topped pot which is divided into two chan bers by an inserted partition, parallel to the base of the pot. The partition rests on internal ribs in the lower char ber and the two chambers are in communication via passa ges around the edge of the partition. The upper chamber larger than the lower chamber. A volume of milk greate than the vol. of the upper chamber and pre-seeded for fer mentation is filled into the pot which is then closed with a cover sealed to the edge of the pot.

The pot is inverted so that the milk falls into the large chamber. The pot remains in this position for a fermenta ion period of 9-20 hours at 16-21°C. The pot is returned its original, upright position so that whey drains into the lower, smaller chamber, leaving cream cheese in the up er chamber. The pots are pref. moulded from thermopla ic sheet on a prodn. line on which the complete process i carried out.

Enhanced hygience is obtd. during curds drainage peri The curds do not contact ambient air during the fermentat ion period. High output at low cost with excellent taste an texture of prod., and other advantages. 4. 1. 78 as 000167 (14pp448)

ALIM- ★ D13 79484B/44 ★FR 2414-8

Multi-compartment curds vat for producing cheese - has end pla flap valve to improve utilisation

PROD ALIMENTAIR DIE 20.01.78-FR-001615
P13 (21.09.79) A01j-25

Vat takes the form of an open-topped channel, pref. of semi-circular cross-section. Spaced partitions can be lo ered into the vat to subdivide it longitudinally into a numb of compartments, all of equal vol.

One fixed end-wall of the vat has a discharge port thro gh which the contents of each compartment in turn can be transferred to the moulding line. The port is now fitted with a pivoted flap valve which, when closed, completed the enclosure of a correct vol. compartment adjacent the end wall.

The valve enables the length of the vat to be fully utili ed. It is of great assistance during cutting washing, clea ing etc. 20. 1. 78 as 001615 (10pp448)

LEPR- D13 16154A/09 =GB 1554-954

Pizza cheese mfr. - with added injection of specified culture to reduce lactose content and improve stringy characteristics (NL 21.2.78)

LEPRINO CHEESE MFG 18.08.76-US-715577
*(31.10.79) *DT2650-984 A23c-19/02*

Pizza cheese is mfd. by inoculating a batch of pasteurised cow's milk with an effective pizza cheese-making amt. of a starter culture.

The starter culture comprises Streptococcus thermophilus together with Lactobacillus bulgaricus and/or L. helvetius, and with 0.5-3.0 wt.% of an additional viable culture of Pediococcus cerevisiae, L. plantarum, S. faecalis, S. durans and L. casei. A cheese curd is made from the inoculated milk, which is mixed and stretched in water at $>$ 130°F to impart a stringy texture to the cheese. The stretched curd is moulded into cheese bodies, which are salted and held at a non-freezing temp. $<$ 55°F for $\geqslant$5 days to reduce the residual lactose sugar content of the cheese.

Part-skim low-moisture Mozzarella pizza cheese is mfd. which slices or shreds readily, which can be handled and applied to the pizza. 3.11.76 as 045756 (15pp931)

STUD D13 06375A/04 =GB 1554-971

Decaffeination of coffee - by treating coffee, water and adsorbent with carbon di:oxide by heating under pressure

STUDIENGES KOHLE MBH 14.12.76-OE-009248 (04.08.76-OE-005769)
*(31.10.79) *BE-856-955 A23f-01/10*

Coffee is decaffeinated by treatment with moist CO_2 in a supercritical state. The coffee used is associated with an adsorbent for the caffeine to be removed. The treated coffee is sepd. from the caffeine-loaded adsorbent to recover the decaffeinated prod.

Pref. the CO_2 is applied in a stationary manner. Coffee beans are used, and water is introduced; the beans being digested with the water before or when it is mixed with the adsorbent. Charcoal, silica gel, fuller's earth or activated aluminium oxide are used as the adsorption agent.

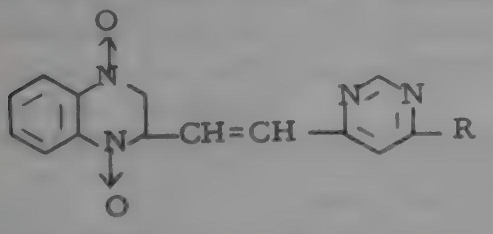
Wet coffee may be dried in the same apparatus after decaffeination without the disadvantage of the coffee beans contracting to their original vol. 19.7.77 as 030224 (+20.10.76-OE-007806) (3pp931)

INTM D13 46123A/26 =GB 1554-985

Improving animal growth rate and feed efficiency - using 2-amino-3-pyrimidinyl-vinyl-quinoxaline 1,4 di:oxide derivs.

INT MINERALS & CHEM CORP (COMM) 20.12.76-US-752596
*B03 C02 (31.10.79) *DT2755-063 A61k-31/49*

Growth rate and feed efficiency of non-human animals is improved by oral admin. in feed ration of a cpd. of formula (I) (where R is 1-4C alkyl) at a dosage of 10-50 (~50) g per ton of feed rations.



(I)

The method is used partic. for recuring chicken broilers, turkeys, and cattle. The pref. cpds. (I) used is 2-(2-(2-amino-3-pyrimidinyl)ethenyl)-quinoxaline-1,4-dioxide. 21.11.77 as 048423 (7pp964)

FUKO D13 83491A/46 =GB 1555-000

Fermentative prodn. of cocoa butter substitute - using medium contg. as a carbon source, stearyl deriv., palmityl deriv., oleyl deriv. and saccharide

FUJI OIL KK 28.04.77-JA-049678
*(D16) (31.10.79) *NL7804-549 C12d-13/08*

Fats and oils rich in 1,3-disatd-2-unsatd.-triglycerides are prepd. by cultivating a microorganism capable of assimilating $\geqslant$1 stearyl cpd. and $\geqslant$1 palmityl cpd., oleyl cpd. or saccharide, to produce the fat or the oil.

The cultivation is performed under aerobic conditions, in a medium contg. a mixed carbon source contg. $\geqslant$1 stearyl and $\geqslant$1 palmityl, oleyl or saccharide cpd., which the microorganism can assimilate. The cells of the microorganism are then collected, and the fats and oils recovered.

The process is esp. used for producing a cacao butter substitute as 'hard butter' or 'hard fat'. 17.4.78 as 01499 (12pp931)

UNIL ★ D13 79529B/44 ★GB 2019-187

Hardened stabilised ice cream similar to soft serve type - comprises aerated compsn. of ice crystals, edible fat particles and aq. syrupy phase, shear-frozen under aeration and extruded at low temps.

UNILEVER NV 24.04.79-GB-014284 (24.04.78-GB-016088)
(31.10.79) A23g-09

Stabilised ice cream is claimed which has been hardened i.e. equilibrated at deep freeze temp., e.g. -20°C or colder, and which has a hardness at -18°C corresp. to a log H measurement of $\leqslant$0.85. H is the maximum force recorded when a plunger of dia. 29.46 mm is pushed down at 20 mm/min through a block of ice cream 40 mm thick, mounted on a platform having a hole of dia. 31.5 mm.

The prod. has the properties of 'soft-serve' ice cream but is storage stable and can be made at point remote from the point of sale, not requiring any special dispensing. 24.4.79 as 014284 (5pp955)

BRPE ★ D13 79530B/44 ★GB 2019-189

Prodn. of liq. whey concentrate for animal feedstuffs - by evapn. and reaction of sugar with nitrogenous cpd.

BP NUTRITION UK LTD 19.04.78-FR-011605
C03 (31.10.79) A23k-01/08

Liq. whey concentrate is prepd. by mixing a liq. whey (dry matter content $\leqslant$ 60% by wt.) with a non-proteinaceous nitrogenous cpd. (I), then evaporating to remove water to leave a liq. concentrate. During or after the evapn. the mixt. is subjected to reaction conditions to effect condensn. of (I) with the sugar present.

The concentrates have good handling properties and are obtd. economically, esp. in traditional dairy installations where liq. wheys are by-prods. The concentrates are useful as feedstuffs for animals. 6.4.79 as 012163 (7pp1248)

MRSC ★ D13 79531B/44 ★GB 2019-191

Frozen animal and human food prod. - contg. a salt and the reduced water content for rehydration before use

MARS LTD 22.01.79-GB-002156 (24.04.78-GB-016158)
C03 (31.10.79) A23b-04 A23l

Frozen food prod. comprises a frozen-foodstuff(s) having a moisture content below the level required when ready for consumption. The prod. contains frozen and unfrozen water and a water-soluble salt(s) (I) at sufficient concn. (but $<$4% for any individual salt and $<$10% for all salts).

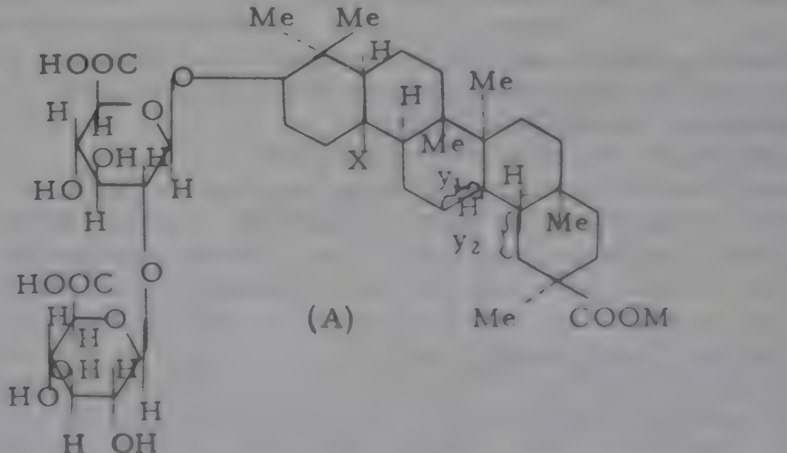
Prods. are readily penetrable by thawing water and can be quickly brought into condition for consumption with acceptable or advantageous organoleptic properties, esp. by addn. of warm or hot water to restore the moisture contents to its normal value while the prod. reaches the normal temp. for consumption. Typical prods. are animal foods and human convenience foods. 22.1.79 as 002156 (7pp1248)

YAMS ★ D13 79572B/44 ★GB 2019-407

Periandrin I,II,III and IV from Periandra roots - useful as natural sweetening agents

YAMASA SHOYU KK 02.03.79-JA-023413 (14.04.78-JA-043198)
B03 E13 (31.10.79) C07j-63

Periandrins I, II, III and IV and their salts of formula (A) are new.



(A)

In (A) M is H or a cation; X is CHO or CH_2OH; one of y_1 and y_2 is a double bond and the other is a single bond as shown.

Cpds. (A) have a sweet taste that is refreshing and delicate; their sweetness is comparable with that of glycyrrhizin but with little or no bitter taste.

Specifically claimed are periandrins I, II, III and IV, i.e. where X =CHO and y_2 and y_1 is a double bond and where X = CH_2OH and y_2 and y_1 is a double bond, respectively; and their alkali metal, Ca and NH_4 salts. 9.4.79 as 012336 (15pp1244)

CANP ★ D13 79573B/44 ★GB 2019-409
Solid, high protein dietary food prods. - contg. gelatin hydrolysate, essential aminoacids, and digestible additives
CANADA PACKERS LTD 21.04.78-US-898994
(31.10.79) C07g-07

Solid, high protein dietary food prod. consists of a gelatin hydrolysate (I), essential amino-acids (II), and digestible additives (III). (I) consists mainly of high mol. wt. polypeptides, and is solid at room temp. Suitable (III) include preservatives, flavouring and colouring agents, texturisers, and sweeteners.

The high protein food prod. contg. (I) is solid at room temp. without contg. any non-nutritive carriers, may be directly ingested or incorporated into other food prods., and is much more palatable than conventional liq. high protein compsns. The prods. may be used e.g. for anorexic patients. 17.4.79 as 013351 (5pp478)

GUSH/ ★ D13 79856B/44 ★J5 4122-300
Stevioside prodn. from Stevia rebaudiana bert. plant - by extn. with hot water, addn. of aluminium ions and then barium ions with filtration of ppte., and adjustment of pH
GUSHIKEN T 14.03.78-JA-028886
B03 E13 (21.09.79) A23l-01/22 C07h-01/08 C07h-15/24

Stevioside (I) is extracted by treating a plant body of Stevia rebaudiana Bert. with hot water, filtering the extract, adding Al ions, such as K alum or Al-sulphate filtering the ppte, adding Ba ions, such as Ba hydroxide, to the filtrate, filtering the ppte, and adjusting the pH of the filtrate.

(I) which is 300 times as sweet as sucrose, is obtd. industrially and economically in high yield. 14.3.78. as 028886 (2pp104)

KANF ★ D13 79979B/44 ★J5 4122-762
Re-structured fibrous food prodn. - by mixing wheat protein with polysaccharide, adding edible salt, protein-unfolding agent and enzyme and kneading
KANEGAFUCHI CHEM KK 13.03.78-JA-028816
(22.09.79) A23j-03 A23l-01/32

The fibrous food is obtd. by (a) mixing the protein compsn. of wheat protein with 40-400 w/w% on the protein solid of high molecular polysaccharide, (b) adding edible salt, protein-unfolding agent and the decomposing enzyme for glucoside bond, (c) kneading the mixt., (d) spreading or stretching thus obtd. mixt. for fibre-forming and (e) if necessary, heat-treating thus obtd. fibrous food at 75-122°C for completing the fibre-formation.

The fibrous food is useful as snack food, dainty food and meat-like food. The unfolding of protein and the decomposition of polysaccharide proceed simultaneously and the fibre-formation can be promoted. Thus excellent fibrous food can be obtd. without spinning process. 13.3.78. as 028816 (4pp5)

KIBU- ★ D13 79980B/44 ★J5 4122-767
Stratified yoghurt or jelly prodn. - by packaging in vessel, spraying with soln. of e.g. gelatin and adding more yoghurt or jelly
KIBUN KK 16.03.78-JA-029262
A97 (22.09.79) A23c-01/04 A23c-09/12

Method comprises (a) packaging yoghurt or jelly in a vessel, (b) spraying a soln. of gelatin, pectin, sodium arginate, carrageenan, CMC, etc. on the surface of the yoghurt or the jelly and (c) adding more yoghurt or jelly.

The coating film can be formed on the surface of yoghurt either by spraying a gelatin soln. on the surface of the yoghurt combined with a negatively charged coagulant or by spraying a negatively charged gelling agent soln. on the surface of the yoghurt combined with a positively charged coagulant. These coagulants are combined in an amt. of >0.5 w/w% in the yoghurt previously and for obtaining a good coating film, the yoghurt pref. has a pH <4.6. 16.3.78. as 029262 (3pp5)

ASAE ★ D13 79981B/44 ★J5 4122-
Confectionery prepn. - by coating baked confectionery base pre from flour, oil and fat, sugar and water with chocolate or cream
ASAHI DENKA KOGYO 15.03.78-JA-029715
(22.09.79) A23g-03

Method comprises coating baked confectionery base pre from flour, oil and fat, sugar and water with chocolate or cream. The baked confectionery based is prepd. usin the oil and fat which has trans-acid content in the structuring fatty acid > 30%, has SFI-value > 35 at 20°C, >23 at 28°C and <5 at 40°C and has difference between SFI o the oil and fat and SFI of the oil and fat in chocolate or cream >35 at 20°C.

Compound confectionery which does not suffer from fa bloom and shows excellent melting property in mouth, can be prepd. easily. 15.3.78. as 029715 (4pp5)

NIOF ★ D13 79982B/44 ★J5 4122-7
Improving taste and flavour of foodstuffs - by adding collage peptide
NIPPON OILS & FATS KK 15.03.78-JA-028628
(22.09.79) A23l-01/22

Process comprises adding collagen peptide (I) of average mol. wt. 500-10000. (I) of specific ave. mol. wt., which i almost tasteless and odourless, can promote the curing c meat-processed foods and can offset the saltiness of salted foods and pickled foods.

(I) can be prepared by hydrolysing collagen in skin, bone and tendons of animals with acid, alkali, enzyme, etc. and the (I) of required ave. mol. wt. can be obtd. by regulating the hydrolysing conditions properly. (I) is combined 0.05-10 w/w% in food material during processing. Process can be adapted widely for foods (e.g. boiled fish paste), processed meats (e.g. ham, sausage, etc.) frozen foods (e.g. hamburgers, croquettes, etc.), pickled foods, salted foods, soup, etc. 15.3.78. as 028628 (4pp5)

TAIH- D13 76900Y/43 =J7 9031-05
Removing heavy metals from contaminated rice - by mashing rice i weakly alkaline medium, then making strongly alkaline
TAIHEI SHOKUHIN KAK 15.03.76-JA-027903
*(04.10.79) *J52110-850 A23l-01/10*

Method comprises polished rice in a weakly alkaline medium, mashing it homogeneously to a slurry, adding alkali hydroxide to the mash to adjust the pH of the slurry to 10-14 and recovering rice starch and rice protein free of heavy metal.

Heavy metal can thus be removed giving prods. with heavy metal contents of <0.1 ppm. The alkali-treatment is practised twice, the desired prod. can not be obtd. by single alkali-treatment. The treated slurry rice starch can be recovered by standing it for sedimentation to remove impurities, neutralising it, dehydrating it and dryin it. 15.3.76 as 027903 A231-1/10 (4.10.79) TAIHEI SHOKUHIN KAK (3pp) (J52110850)

UNIL D13 73278U/48 =NL-161-659
Randomised palm oil - used as component eg in margarine
UNILEVER NV 10.05.72-GB-021794
*(15.10.79) *NL7306-450 A23d-03/02*

Margarine-like prods. are prepd. by emulsifying an aq. phase and a fat phase which is based on palm oil(s). The fatty mixt. comprises 15-40wt.% unmodified, re-esterified natural palm oil, together with sufficient oils and fats, so that the prod. has a hardness of < 900 g./cm² at 5°C and 50-150 g./cm² at 20°C.

Pref. the fat mixt. contains 15-30wt.% re-esterified palm oil together with other vegetable oils. The fat or fat mixt. has a m.pt. 25-30°C, with a dilation between 600 at 5°C and 50 at 35°C. The prods. are free from the delayed hardening and undesirable change problems found when palm oil only is used (i.e. due to its low crystallisation speed). 9.5.73 as 006450. (5pp913)

NEST D13 39972X/22 =NL-161-660
Instantly soluble granules for drinks esp. coffee and tea - vacuum expanded from extruded paste of vegetable extract
SOC PROD NESTLE SA 17.12.74-FR-041602
*(15.10.79) *BE-835-557 A23f-01 A23f-03*

Water-soluble, dry extracts of coffee

offee surrogates, tea and other fragrant plant extracts
re produced as porous granules. Extracted plant mater-
al, in the form of powder or paste, having a water-con-
ent $\leqslant$ 10wt.% is first extruded at 60-125°C from an en-
losure at a pressure of 100-1000 kPa, into an enclosure
t a pressure of 1-30 kPa. The extruded prod. is then
ut into pieces.

Pref. the powder or paste has a water-content of 2-6-wt.%, and is extruded through an orifice of dia. $\geqslant$ 0.25 (esp. 0.5-5)mm. dia., into an enclosure at a pressure of 5-15 kPa. Prod. is expanded after cutting into pieces.

Prods. porous granules are $\geqslant$ 1 mm. in size, having a smooth external surface and porous inner structure, and can be dissolved instantly in cold and hot water. 3.12.75 as 014088. (6pp913)

NEST D13 42010X/23 =NL-161-661

Instantly soluble dehydrated food products - by extruding thermoplastic powders of paste, then expanding and cutting

MAGGI AG 17.12.74-FR-041603

*(15.10.79) *BE-835-655 A23l-01/40 + A23l-02/38*

Granulated dehydrated bouillons, soups, soup bases, aroma- and flavouring-agents, extracts of meat, vegetables and fruit, as well as spices and aromatisers, are produced from water-contg. powder or paste. The starting material of water-content $\leqslant$ 20wt.% is extruded at 60-125°C from an enclosure at a pressure of 100-1500 kPa, into an enclosure at a pressure at 1-30 kPa.

Pref. vegetable material extract in the form of powder or paste of water-content 1.5-10wt.%, is extruded through an orifice of dia. $\geqslant$ 0.25 (esp. 0.5-5)mm. into an enclosure at a pressure of 5-15 kPa. The extruded prod. is cut into pieces and then expanded. The granulated prod. dissolves readily in hot water without forming lumps. 11.12.75 as 014458. (7pp913)

INFL D13 40361W/24 =NL-161-745

Heterocyclic nitrogen compounds for flavouring foods and tobacco - obtd. by reacting (alkyl)-pyridine with cyclo alkenyl-(alkyl) halide

INT FLAVORS & FRAGR INC 11.02.75-NL-001577 (02.09.69-US-854787)

*E13 P15 (D18) (15.10.79) *NL7501-577 A23l-01/22 C07d-213/16 + C11b-09*

2- or 4-(2-Pinen-10-ylmethyl)pyridine (I) are prepd. by reacting α- or γ-picoline with myrtenyl chloride in the presence of an alkali metal amide or hydride. Typically reaction is effected at 0-100°C and atmospheric pressure, using 10-150% excess of the alkylpyridine; Na, K or Li amide is used, or Na hydride.

(I) have a strong amber wood fragrance and are used as aromatisers or perfumes. They are added as $\leqslant$ 1wt.% to perfume compsns. to enhance or intensify the aroma of various components. The aroma can be imparted to various prods. e.g. eau de Cologne, perfume, bath oil and various cosmetic prod. 11.2.75 as 001577, Div. ex 1.9.70-012896. (5pp913)

PRUN/ ★ D13 B/44 ★PT --69-240

Extn. of alcohol from olive vegetation water - to reduce pollution and for use in foods, fuels, cosmetics, etc.

PRUNA T 02.02.79-IT-019873 (16.02.78-IT-020348)

E17 (D15 D21 D23) (10.10.79) B01d C07c 15.2.79 as 069240

GUSE/ ★ D13 80360B/44 ★SU-646-254

Determn. of fermentation degree of cocoa beans - by extraction with methanol-hydrochloric acid mix, and spectrophotometric analysis

GUSEVA K B 05.08.77-SU-516658

R16 (08.02.79) G01n-33/02

The fermentation degree of cocoa beans can be determined by estimating the ratio of the coloured substances contained in the beans.

The accuracy of this determination can be increased by preliminarily treating the cocoa beans with a 97:3 mixt. of CH$_3$OH and HCl at 5-10°C for 20-24 hr.

The optical density of coloured materials in the resulting extract is determined at the 460 and 530 mμ wavelengths. When the cocoa beans are fully fermented, the density ratio is $D_{460}:D_{530} \geqslant 1$.

Gureva, K.B., Tserevitinov, O.B. Bul. 5/5.2.79. 5.8.77 as 516658 (2pp70)

ZAPE/ ★ D13 80377B/44 ★SU-646-974

Leaf tea extractor - with blades on lower turns of vertical screw following horizontal screw to break up masses

ZAPERTOV S V 24 08 77-SU-522515

(18.02.79) A23f-03-02 B01d-11/02

Extractor includes a metering feed, successive horizontal and vertical chambers with corresponding screws, a filter a brush secured to the horizontal screw for cleaning the filter, and elements for breaking up the mass.

In order to permit continuous extraction by preventing the tea being compressed and slipping as a mass, ridges are formed in the lower turns of the vertical screw and blades are secured to it. The apparatus is e.g. for producing dry soluble concentrates, syrup, or aq. extracts.

Zapertov, S.V., Grebenyuk, S.M., Lysyanskii, V.M. et al Bul. 6/15.2.79. 24.8.77 as 522515 (4pp1358)

CONF= ★ D13 80378B/44 ★SU-646-975

Confectionery moulding appts. - complementary shaped portioning knife located over profiled forming roll on conveyor

CONFECTIONERY IND 26.08.77-SU-522419

(18.02.79) A23g-03/12

Appts. for moulding confectionery compsns. comprises a loading hopper, a moulding roll with depressions in its surface, a belt conveyor under the roll, and a vibrator.

For metered feed of portions of composition, a knife has a working surface complementary to the roll and is mounted on the outer side of the roll. The knife is pref. secured on arms which can pivot relative to the roll axis and which are connected with the vibrator.

The appts. can increase output 1.5- to 2-fold while also increasing apparatus service life.

Daurskii, A.N. Korolev, V.I., Morozov, V.V. et al. Bul. 6/15.2.79. 26.8.77 as 522419 (3pp1358)

YAST/ ★ D13 80379B/44 ★SU-646-976

Tomato paste mfr. - by adding sugar to pulp before evaporation, when using tomatoes with reduced soluble solids content

YASTREBOV S M 01.08.77-SU-512032

(18.02.79) A23l-01/06

Tomato paste is produced by washing, inspecting, crushing, warming, triturating and evaporating. To improve product quality when using tomatoes with a reduced soluble solids content, sugar is added to the pulp before evaporating in an amt. of 0.1-1.0%.

Raising the ratio of soluble to insoluble solids two-fold reduces the product viscosity 6-fold, and this permits production of paste containing 30% dry solids or more, and of better quality, without burning.

Yastrebov, S.M. Bul. 6/15.2.79. 1.8.77 as 512032 (3pp1358)

GSUB= ★ D13 80381B/44 ★SU-646-978

Nut shelling machine - with smaller auxiliary breaker drum and deck plate in hopper base, ahead of main drum

GEORG SUBTROP AGRIC 01.09.76-SU-397992

(18.02.79) A23n-05

The machine includes an elevator to a charging hopper, a hammer drum with fingers having an elastic coating, a sieve with a blower at one side, and a separator. To reduce damage to the kernels, there is a similar but smaller diameter auxiliary hammer drum mounted on the hopper and rotating oppositely to the main drum.

A suction fan is mounted on the opposite side of the sieve to the blower, and the machine housing carries a spring-loaded deflector which cleans the surface of the main drum. Each drum carries the nuts past a respective plate, also with elastic coated fingers interdigitating with those on the drum. Unshelled nuts are sepd. and returned to the charging hopper.

Ioseliani, M.V., Ubilava, L.A. Bul. 6/15.2.79. 1.9.76 as 397992 (3pp1358)

LENI ★ D13 80510B/44 ★SU-647-295

Animal feed grade phosphate prodn. - by decomposition of phosphate rock with nitric acid, sepn. of impurities and repeated treatment with ammonia and nitric acid

LENINGRAD LENSOVET TECH 04.06.77-SU-502566

C03 E37 (C04) (18.02.79) C05b-03

Phosphates, for use as animal feed additives, are obtd. by decomposing phosphate rock with nitric acid, sepn. of insoluble residue and cooling the acid extract, followed by the sepn. of calcium nitrate, treatment of mother liquor with sodium salts and sodium hexafluorosilicate removal. After treating the mother liquor with ammonia gas to pH 2, the rare earth metal phosphates, oxides and F-contg. cpds are sepd. and the resulting mother liquor is treated with ammonia gas and prod. is sepd.

The filtration process is accelerated and prod. P_2O_5 content is increased if after the treatment of the mother liquor with ammonia to pH 4-6, the latter is acidified with nitric acid or acid-contg. extract to pH 2-4 and the above cycle is repeated 2-4 times before the sepn. of the final prod.

Pozin, M.E., Kopylev, B.A., Dmitrevskii, B.A. et al. Bul. 6/15.2.79. 4.6.77 as 502566 (2pp938)

BOTA= ★ D13 80543B/44 ★SU-647-330

Food grade carotenoid dye for confectionery mfr. - from tomato processing skin waste using extn. with hot hydrochloric acid and ethanol mixt.

BOTANY INST 26.09.77-SU-534942
E24 (15.02.79) A23l-01/27 C09b-61

A carotenoid dye preparation used in confectionery is obtd. in high yield by treating non-food waste from tomato processing pref. skins, with a 6:4 mixture of 0.5N HCl and 96%-ethanol.

The mixt. is heated at 50-55°C for 25-30 mins., filtered, neutralised with 0.1N KOH and dried. The dichloroethane extract is treated with 1.7-2.0 wt.% activated gum and filtered.

Dichloroethane is distilled off at 45-55°C and 80-100 mmHg and the paste obtd. is mixed with $5.0\text{-}5.5.10^{-3}$ wt.% of 0.001-0.002% - alcoholic tocopherol or hydroquinone. The alcohol is evaporated off under vacuum.

Abutalybov, M.G., Aslanov, S.M., Kuliev, B.M. Bul. 6/15.2.79. 26.9.77 as 534942 (2pp1047)

FOOD= ★ D13 80622B/44 ★SU-648-191

Filled caramel strip forming appts. - has filling supply tube within caramel rod and with flexible connection to delivery tube between draw rollers

FOOD IND RES INST 11.10.77-SU-534491
(28.02.79) A23g-03/06

The appts. comprises a tube supplying the filling and located within and along a caramel rod, and rollers for drawing out the filled strip. To permit more uniform filling, there is a stub tube located in the caramel strip between the drawing rollers and which has a flexible element located in the tube for supplying filling and linked with a locating mechanism.

Berezovskii, Yu.M., Panfilov, V.A., Urakov, O.A. Bul. 7/25.2.79. 11.10.77 as 534491 (2pp1358)

KULA/ ★ D13 80624B/44 ★SU-648-198

Carrot topping and tailing machine - has horizontal rotor with curved plate carriers, each with pockets for carrots

KULAKOV A F 25.05.77-SU-490914
(28.02.79) A23n-15/04

The machine comprises a frame mounting a horizontal rotor, a support with a cut-out, a cutter for removing the carrot tops, and a conveyor for the finished carrots and waste. To increase output and simplify design, the rotor has carriers each consisting of a curved plate with several pockets for carrots.

The carriers are secured to the rotor so that the pockets are located on opposite sides of the rotor. There are pref. a number of supports, each with a recess for locating the wide end of a carrot.

Kulakov, A.F. Bul. 7/25.2.79. 25.5.77 as 490914 (4pp1358)

RANG D13 07588Y/05 =US 4171-668

Meat and fish substitutes with a fibrous layered structure - by extruding compressed protein mass and forming into layers

RANK HOVIS MCDOUGAL LTD 17.09.75-GB 038195
*(D12) (23.10.79) *BE-846-288 +A23p-01*

Appts. for forming a proteinaceous mass into a fibrous layered structure resembling a natural foodstuff compri es a helical conveyor rotatable in a housing with an end plate defining an annular slot with a cylindrical internal surface and a cylindrical core plug in the plate and spac axially from it.

Plate and plug have radial planar surfaces and define restrictive annular extrusion passage such that the mass is extruded in a fan-shaped pattern and folded back on i self in the radial space perpendicular to the cylindrical surfaces. 27.12.77 as 864860 (+ 2.9.76 - US - 720100) (17pp1358)

CHET ★ D13 80755B/44 ★US 4172-0

Prepn. of water-soluble keratinous protein - by hydrolysis w water and steam under pressure

CHEMETRON CORP 10.04.78-US-894666 (09.11.76-US-740276)
C03 (23.10.79) A23j-01/10

Water-soluble keratinaceous protein (I) is prepd. by hyd -lysing keratin (II) in a medium consisting of saturated steam at 50-250 p.s.i.g. and 5-30 pts. liq. water per pt. (II). The hydrolysis is at the temp. of satd. steam at th pressure used, and acids, bases and other chemical reagents are absent.

(II) is pref. obtd. from poultry feathers or featherme or hog hair. The pressure is suitably 95-250 p.s.i.g., and the ratio of the total amount of water, as steam and liquid, to (II) is 8:1-30:1. The press. is pref. 125-200 p.s.i.g.

(I) is wholly digestible by pepsin, and it is odourless and so suitable for use as a food for animals or humans. 10.4.78 as 894666 (4pp1248)

SQUI ★ D13 80782B/44 ★US 4172-1

Animal feed compsn. contg. aminoacid tri:chloroethyl ester - usef for increasing growth and feed efficiency

SQUIBB E R & SONS INC 19.05.78-US-907516
C03 (23.10.79) A61k-31/22

Animal feed compsn. comprises a base feed contg. 0.001 0.06% of a trichloroethyl ester of glycine, leucine, isoleucine, valine, threonine, lysine, methionine or argini or their acid-addn. salts. Pref. glycine, lysine or meth- ionine esters are used. The compsns. pref. contain 0.0 -0.016% ester, esp. 40-160 g of glycine trichloroethyl HBr salt.

The esters are growth promoters esp. effective in inc easing feed efficiency for ruminants such as cattle and sheep. Feeds supply 0.01-5 g ester daily. 19.5.78 as 907516 (6pp1248)

FARH D13 32043A/18 =US 4172-1

Oven cooked products stable to storage in humidity - cont swellable chemically or physically modified carbon hydrate

HOECHST AG 29.10.76-DT-649278
*A97 (23.10.79) *BE-860-148 +A21d-10*

A baked flour-contg. prod. is prepd. using, as additive prevent softening by moisture, a cross-linked starch or cellulose ether which is cross-linked by heat, radiation reaction with a further chemical cpd. and is water insol. to the extent of $\geqslant$25 wt.%, and capable of swelling.

The additive, in an amt. of 0.5-15 wt.%, is uniformly distributed throughout a flour and water contg. mixt. pri to baking. Alternatively the additive is uniformly incorp orated in a portion of the flour and water contg. mixt. in an amt. of 0.1-25 wt.% and this portion is used as a top layer, interlayer or base layer with the rest of the flour and water contg. mixt. Pref. 0.2-10 wt.% of the additive is used based on the total mixt. 28.10.77 as 846332 (7pp945)

See Also

D11 DS 2325948 E15 EP --5011 D15 J7 0030996
D16 EP --5030 D23 GB 1554797 D23 J5 4124009

D14: FOODSTUFF MACHINERY

CAMA/ ★ D14 B/44 ★BR 7900-039
Pressure bottle
CAMASMIE A 02.01.79-BR-000039
P42 Q32 (16.10.79) A23d-03/28 B05b-07/32 B65d-01/02

LAND- ★ D14 79533B/44 ★GB 2019-199
Separator tank having two longitudinal compartments - communicating via series of transverse water troughs and pump
INST LANDBOUWPROD 24.04.78-NL-004344
P41 (31.10.79) A23n-13 B03b-05

Separator comprises a tank having a prod. inlet and a water outlet at one side and a prod. outlet and water inlet at the opposite side. The tank is longitudinally divided into two compartments which communicate with each other through a pump in the lower part of the tank and through a series of transverse water troughs in the upper part. The compartment communicating with the pressure side of the pump contains a plate bottom formed by partially overlapping sheets which define slots facing in the direction of the prod. outlet.

Used as a washer for washing sliced potatoes. The prod. is conveyed countercurrent to the water without using mechanical devices and with little contact with solid parts which reduces abrasion and fouling. The sheets of the plate bottom remain clean. Impurities are carried away with the water. 24.4.79 as 014274 (9pp1044)

HAMB- D14 00415V/01 =NL-161-723
Sterile packaging machine - for food prods
HAMBA-MASCH MULLER (HAM -) 23.03.72-DT-214080
*P13 Q31 (15.10.79) *FR2176-728 B65b-55/04*

Beakers are filled with a material for consumption under sterile conditions. The beakers are fed onto an endless belt which is housed in a sterile chamber. The space within the belt is divided by upper and lower plates into upper and lower zones. In the upper zone, the beakers are filled, lids are placed onto them and they are removed from the belt.

At the end of the upper belt travel, the fresh beakers are placed on the belt from where they then pass through a spray zone so that they can be treated with a sterilising fluid and the lower zone is used for drying them. This is achieved by passing the inverted beakers over a spray plate through which dry sterile warm air is blown.

Enclosing the entire belt in a sterile chamber eliminates the need to enclose the beakers individually in sterile chambers and hence renders the entire installation both simpler and more economic. 8.3.73 as 003265. (6pp1370)

AZCH= ★ D14 80376B/44 ★SU-646-973
Food products scalder with conical rotor - through which hot water passes and into which fish are loaded to be scalded on both sides
AZCHERRYBA FISH IND 30.08.77-SU-523513
(18.02.79) A22c-25

Device for scalding products, such as fish, fruit, vegetables, etc., consists of a body with loading and unloading attachments and pipes to admit and withdraw the liquid, electrical heaters, and a hollow rotor placed inside the body and made in two parts, the lower of which has a cylindrical shape and is fitted with blades, and the upper of conical shape. The quality of the scalding is improved by fastening sloping blades to the conical part of the rotor arranged along the direction the rotor is moving with an angle of lift, and overlaping one another.
Nikolaev, A.L. Bul. 6/15.2.79. 30.8.77 as 523513 (3pp29)

AGRI= ★ D14 80623B/44 ★SU-648-197
Fruit and vegetables sterilised storage apparatus - has activated carbon electrodes in sealable chamber producing ozone for longer storage life
AGRIC CHEMISATION 29.11.77-SU-551736
(28.02.79) A23l-03/32

The appts. comprises a chamber contg. electrodes connected to a high-voltage source. In order to increase product shelf life, the chamber has holders of dielectric material with sockets for electrodes of activated carbon, the holders pref. being located on opposed walls of the chamber.

The chamber is loaded with product and sealed, then the electrodes are connected to the source and become saturated with harmful organisms and their metabolic prods. A corona or glow discharge between electrodes creates an ozone-air mixture which kills the organisms both on the electrodes and on and between the products.
Kalachev, S.L., Rukavishnikov, A.M., Osipov, V.G. et al Bul. 7/25.2.79. 29.11.77 as 551736 (2pp1358)

FORM- ★ D14 80674B/44 ★US 4171-625
Modular cryogenic freezing tunnel - with stationary cover and vertically movable base operated by hydraulic elevators
FORMAX INC 02.11.77-US-847721
Q75 (23.10.79) F25d-17/02 F25d-25/04

A cryogenic food freezing tunnel comprises an elongate tunnel housing with a conveyor extending through it. Cryogen is introduced into the tunnel near the food product exit end and is exhausted from the tunnel near the food product inlet end.

The tunnel is formed with a stationary cover and a base of U-shaped section which is suspended from the cover. The base can move between an elevated operational position and a lowered service position. The housing includes modular base units aligned end-to-end and comprising $\geqslant 1$ centre unit interposed between two end units.

Each unit may be separately raised and lowered. There are guides for the end units for guiding each of those downwards and outwards on lowering. The base units are raised and lowered in a predetermined sequence such that the end units are lowered before the centre unit, and on raising a reverse sequence is followed.

The tunnel is used for rapid freezing of food products such as hamburgers, steaks, chicken pieces or patties or fish. Sealing problems are minimised by continuously holding the tunnel base units in a sealed position against the cover through the application of pressure by the elevators with no mechanical latches. 2.11.77 as 847721 (22pp295)

LARE- ★ D14 80677B/44 ★US 4171-667
Freshly cooked popcorn vending appts. - supplies cups of buttered popcorn and separate packets of salt
LAREDO SYSTEMS INC 26.11.76-US-745174
(23.10.79) A23l-01/18

A popcorn vending appts. includes an enclosed housing with an access door. Mounted within the housing is a cooker comprising a receptacle holding kernals, hot air being blown through the receptacle to cook the kernals. The receptacle may be rotated between a first upright position and a second tilted dispensing position during cooking. Uncooked kernals are stored within the housing and supplied to the receptacle.

A cup dispenser supplies individual cups to be filled by cooked popcorn. A delivery chute transports the cups to a delivery station through an opening in the door, and also transports the cooked kernals. A supply of butter flavoured fluid topping is dispensed onto the cup of popcorn. A salt dispenser supplies individual packets of salt to a second opening in the door.

The popcorn is freshly cooked on demand. 26.11.76 as 745174 (14pp295)

YAMA/ · D14 66392B/37 =US 4171-739
Bucket conveyor - with means to move the buckets into contact during horizontal working runs
YAMATO H 15.12.75-JA-150067 (07.08.75-JA-096374)
*+Q35 (23.10.79) *CA1061-273 +B65g-17/36*

A conveyor for moving e.g. noodles or potato chips from a charging hopper through processes to a receiving hopper comprises two spaced link chains carrying successive buckets, and a horizontal run in which the buckets are supported so that chain links between the bucket holding links can depend and the buckets can advance in contact with each other.

Each bucket has a pivotable cover held between two bell cranks and spring biased selectively open or closed, the covers facing the receiving hopper. A rocking arm engages the covers to open them when the buckets are above the receiving hopper. 17.11.77 as 852284 (+ 15.12.75 - JA - 150067)(+ 30.7.76 - US - 710631)(8pp 1358)

D15: WATER TREATMENT

STEN/ ★ D15 79133B/44 ★BE -877-249
Purificn. of waste water with intermittently immersed bacteria beds - in controlled atmos. in pressure vessel contg. rotary cylinder
STENGELIN V 26.06.78-DT-827996
(15.10.79) C02c

Installation for the biological purification of waste water is of the type comprising a rotary cylinder, pref. of plastic, carrying beds of bacteria which are alternately immersed in and raised clear of the water by rotation of the cylinder. Purificn. includes elimination of organic carbon, the oxidation of ammonia to convert it into nitrates and the denitrification of nitrates to produce nitrogen gas.

Improvement is that the rotary cylinder is housed in a pressure vessel. The cylinder comprises a number of bacterial bed plates spaced axially, side-by-side. The cylinder supports and the drive transmission are pref. positioned above the max. level of water inside the vessel The water level within the vessel is adjustable.

Used for biological purificn. of waste water atmos. within the vessel headspace can be controlled for optimum efficiency of the bacterial beds, e.g. waste water with heavy organic pollution may require an atmos. of nitrogen and oxygen in which the proportion of oxygen is more than 60% during nitrification, the beds can turn in an atmos. free from oxygen. Circumferential support and drive to the cylinder can remain always above water level with elimination of operational problems associated with fouling 25.6.79 as 877249 (17pp448)

MANN/ ★ D15 79167B/44 ★CA 1064-206
Delignification and bleaching system for pulp mfr. - prevents chloride build/up in the recovery system for the digestion chemicals (SW 3.5.76)
MANNBRO N V 08.10.74-SW-012638
F09 (16.10.79) D21c-03 D21c-11

Method of reducing chloride accumulation and water pollution in the mfr. of bleached pulp from lignocellulosic raw material, is claimed. The raw material is delignified with non-chlorine agents to form a spent liquor and unbleached stack. The stock is then bleached with a chlorine cpd. to form a bleached stock and chlorine-contg. belaching effluent. This bleaching effluent is applied to unbleached stock for displacement of the remaining spent liquor.

The improvement is that the major portion of the spent liquor and the spent liquor resulting from displacement is removed and combined. This lye is subjected to recovery processes for removal of useful materials. The unbleached stock is then displacement washed with bleaching effluent to form a brine having a higher concn. of chlorine cpds. than the lye. The brine is then passed to a separate treatment system comprising a step for thermally oxidising organic substances to such a degree that the chlorine cpds. are converted to chloride and any sulphur cpd. are converted to at least oxidn. number IV.

The method prevents the build-up of chloride in the recovery system for the digestion chemicals used in the pulping process. 6.10.75 as 237121 (37pp1307)

CNSF ★ D15 79175B/44 ★CA 1064-630
Prepn. of biologically safe natural water - by removal of halide ions, then treatment with silver ions or other biocide
CONSOLIDATED FOODS CORP 10.07.78-US-922935 (29.04.75 US-572758)
(16.10.79) C02b-01/14 C02b-03/10

Prodn. of biologically safe natural H_2O comprises (a) removing and exchanging halide (esp. Cl) ions with an anion that maintains the original ionic character of the H_2O but does not inhibit the biological activity of Ag ions; (b) treating H_2O with Ag ions; (c) holding the treated H_2O to allow the Ag ions to act as bactericide and virucide; (d) r-ucing the concn. of Ag ions to a biologically acceptable level.

Method avoids the prodn. of halogenated organic cpds. maintains the original ionic concn (and hence natural character) of the H_2O, and produces biologically safe and palatable drinking H_2O. Organisms removed include ciruses (Polio type 1, and Echo virus type 7), bacteria (E. coli, Salmonella typhimurium, Shigella sonnei, Pseydomonas aeruginosa etc.), and fungi (Candida albicans). 1.12.75 as 240790 (42pp478)

UNVO D15 88848P/00 =DS 1442-42
Reverse osmosis appts. for purifying salt water
UOP INC (GEND) 21.12.64-US-419881
*A88 (25.10.79) *AU6567-903 +B01d-13*

A reverse osmosis device consists of a cylindrical casing with a perforated central tube around which a pair of membranes has been wound in a coaxial spiral The layers are sepd. from each other by a grating, and consist of a carrier material layer (cotton or wool felt) with layers of sem-permeable membrane material on both sides. Prior to winding to a spiral, the layers are sealed on three sides by bonding the overlapping membrane sides to each other in a fluid-tight seal; the fourth side is bonded to the central tube.

The deviceis simple design and offers a high specific membrane surfaces; it is suitable for high pressure differentials across the membrane. 16.12.65 as 442420 (7pp)

GOUR- D15 83591R/45 =DS 1557-073
An electro gasdynamic separation of substan- - ces from a liquid carrier
GOURDINE SYSTEMS (GOU -) 15.11.66-US-601270
*+P41 P42 (25.10.79) *GB1212-784 +B03c-03/02 B05d-01/04 B05d-07/22*

Coating of articles by electrogasdynamics, using a gas flow of restricted cross-section and a layer-forming admixture to the gas makes use of two inlet electrodes to expose the gas to an ionisation field. The particles of the admixture are charged thereby and receive a high potential At the outlet of the gas duct, the gas with the particles has to pass through a widened space and impinges on the surface of the articles to be coated which are conductively connected to the duct wall.

The attractive force which is exterted by the articles results in a coating of very uniform thickness on the basis of electrogasdynamics. 29.8.67 as 557073 (6pp39)

BOSC D15 30266X/17 =DS 2445-665
Sewage neutralization /detoxification treatment - with parallel collector basin absorbing inflow temporarily when purificn. limits exceeded
BOSCH R GMBH 25.09.74-DT-445665
*(25.10.79) *DT2445-665 C02c-05*

System for the continuous neutralisation and/or detoxification of industrial wastes normally passes the fluid from a buffer basin to neutralisation and detoxification sections in a common treatment tank, where each section is fitted with a paddle stirrer and a sensor. A flocculation tank and a final clarification stage with a final check sensor pass the water to the drainage system.

If the sensors indicate that even the max. admixture of neutralisation or detoxification agents cannot cope, they close the outlet valves and direct the influent sewage to a standby reservoir, until the desired degree of neutralisation/detoxification has been reached after an adequate retention time.

System maintains a continuous operation in spite of sewage fluctuations in the toxicity or arrival rate of the influent by a simple and low-cost method. 25. 9. 74 as 445665 (5pp39)

DIDI D15 48845Y/28 =DS 2610-637
Recovering vanadium, tungsten or molybdenum from waste waters - by precipitating as vanadates, tungstates or molybdates of iron
DIDIER-WERKE AG 13.03.76-DT-610637
*E31 M25 (25.10.79) *BE-852-383 C01g-49 C02c-05/02*

Waste water contg. V , W and/or Mo in the presence of Cr is treated by addn. of Fe or Cr cpds. to ppte. Fe or Cr vanadate, tungstate and/or molybdate. The ppte. is filtered off immediately without prior sedimentation followed by reduction of Cr, ppn. of $Cr(OH)_3$, and neutralisation.

Pref. the Cr cpds. are reduced with Fe(II) salts at pH 1-2; and Fe (III) generated then ppts. as vanadate, tungstate and/or molybdate. The Fe (III) salts are prepd. at pH 2-4.5 and the Cr salts are pptd. at pH 3-5. Operating temps. are 20-40°C. The treated water is finally satd. with Ca^{2+} ions. 13. 3. 76 as 610637 (4pp047)

ROTO ★ D15 79255B/44 ★DT 2816-899
Tubular dewatering screw press - with tube end closed by biased swing lid (BR 13.6.78)
ROTO-SIEVE AB 26.11.76-SW-013267 (19.04.78-DT-816899)
J01 P71 (25.10.79) B30b-09/02 C02c-03

A screw press for the dewatering of supensions consists of a perforated tube in which the feed is charged by a screw conveyor. The counter pressure is exerted by a lid which is urged against the discharge opening of the tube by a biased device. This device is so designed that its thrust pressure is greatly reduced in the maximum open position of the lid.

This is a simple press with an automatic discharge which permits the discharge of long strands of dewatered material without breaking it up unnecessarily. 19.4.78 as 816899 (10pp39)

BORM/ ★ D15 79269B/44 ★DT 2817-527
Clarification plant run/off gutter cleaning - by twin brush carrier adjustable in height and spread
BORMET H 21.04.78-DT-817527
(25.10.79) C02c-01/26

The run-off gutters from biological sewage treatment plant are kept free from algae by a brush carrier with two revolving brushes on vertical shafts which can swivel on a vertical column. A jib for the brush carrier can move in the vertical and horizontal plant on a guide bar on a clearance bridge.

This is a simple design which can be produced at low cost, yet has adequate facilities for adaption to any changing conditions. 21.4.78 as 817527 (13pp39)

OSAG ★ D15 79282B/44 ★DT 2821-054
Activated sludge treatment of sewage - in one open and two closed stages with specified oxygen concn. for oxidation and flocculation
OSAKA GAS KK 15.04.78-JA-044708
(25.10.79) C02c-01/06

An activated sludge process for the treatment of municipla sewage and industrial wastes applies jet grindling to the sludge in the effluent, containing the biochemical oxygen demand (BOD) component, to such an extent that the cells of the microorganisms are not destroyed and the BOD component is absorbed on the ground sludge. This component is oxidised by aeration and flocculation.

This reduces the amount of surplus sludge produced (which has to be disposed) to a minimum. There is no risk of explosion in closed vessels and a high efficiency is maintained. Gas with a low oxygen concentration and air can be used so that the operation costs are low. 13. 5. 78 as 821054 (25pp39)

HOTA- ★ D15 79396B/44 ★EP ---4-934
Appts. for biological purification of waste water - with generated auxiliary currents to prevent blockage of sedimentation chamber exit
HOTACO AS 13.04.78-DK-001618
(31.10.79) C02c-01/06
D/S: E(BE, CH, DT, FR, GB,IT, LU, NL, SW).

An appts. for the purification of waste water includes an aeration chamber where the waste water is mixed with an activated sludge and is aerated by immersed diffusers. The appts. also includes a secondary sedimentation chamber in which the sludge is precipitated and from which the purified water is removed via an overflow.

The sedimentation chamber is formed as an upwardly open plate insert positioned in the aeration tank. The insert has bottom and side walls inclined downwardly towards a bottom opening. A central channel is defined within the insert between two vertical, parallel plates extending between the end plates of the insert, and from their upper edges to a point above the bottom opening. The central channel is connected to the aeration chamber through tubes.

The bottom opening of the sedimentation chamber tends not to become blocked as would be the case without the use of the central channel which produces auxilliary currents to sweep accumulated sludge from the inclined walls of the insert down through the bottom opening back to the aeration chamber.
10.4.79. as 101103 (12pp295).
(E) ISR: GB 1115877; DS 2751470; US 4021347; FR 2322834; FR 1464017; US 3507393.

METG ★ D15 79418B/44 ★EP ---4-986
Appts. for treating cooling water with hypochlorite - has fixed horizontal distribution pipe with depending plastics pipes of different lengths
METALLGESELLSCHAFT AG 17.04.78-DT-816522
A88 (31.10.79) C02b-01/36 C02b-03/06
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Device for supplying dissolved chemical agents into horizontally flowing water streams has a distributor pipe (3) located at a fixed position above the water level, the pipe being provided with a number of depending supply pipes , (6) which are of different lengths and which are uniformly distributed across the cross-section of the water stream(s).

Treating cooling water in power stations with hypochlorite soln., protecting pumps and coolers against aquatic life forms.

Construction is simple yet permits uniform distribution of agents without the need of agitation.
3.4.79 as 200159 (8pp536).
(G) ISR: DS-723114; US2956713; US3758276.

SIMC ★ D15 79430B/44 ★EP ---5-011
Removal of metallic impurities from sewage sludge - by dissolution with aq. acid and oxidising agent, and sepn. of impurity-contg. liquids
SIMON ENGINEERING LTD 15.04.78-GB-014901
C03 (D13) (31.10.79) C02c-03
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Metallic impurities (I) are removed from sewage sludge as follows: (a) sludge is acidified in the presence of an oxidising agent (II) so that (I) are dissolved; (b) a flocculating agent (III) is added; (c) the sludge is thickened by removal of liq.; (d) the thickened sludge is diluted with an aq. liq. free of (I); and (e) the sludge is dewatered mechanically.

Using simple, inexpensive equipment, the method effectively removes (I) from sewage sludge, and allows it to be used as an animal feedstuff, etc. Pb, Zn and Cd are completely removed, while most of Cu and Ni are removed.

26.3.79 as 300479 (12pp478).
(E)ISR: US3772191; FR2374265; DT1935229; DT1947492; FR2010250; US3649534; 2 Journal References.

WATE- ★ D15 79445B/44 ★EP ---5-047
Controller for water softener with brine regeneration - activated after treatment of specified volume of water
WATER REFINING CO 14.04.78-US-896568
R26 R27 (31.10.79) C02b-01/40 G05d-21/02 G06f-15/46
D/S: E(DT, FR, GB).

A water treatment system includes a brine tank which is used to regenerate the resin bed. A computer controller is connected to a sensor which records the volume of water treated by the apparatus. The computer has a manual entry via which variable data can be specified.

When the plant has processed a specified volume of water the computer operates valves to initiate a regeneration cycle the duration of which is also controlled by the computer. Preferably the computer has additional inputs which detect a low liquid level in the brine tank and extend the regeneration cycle accordingly.

The appts. softens water.

The computer controller provides for a more precise control of the operation of the softener than is possible with a simple controller which typically initiates a regeneration cycle at regular time intervals.
17.4.79 as 300633 (93pp295).
(E) ISR: US3366241; US4104158; US2919805; 1 Journal Reference.

DELA/ ★ D15 79472B/44 ★EP ---5-113
Deodorising treatment for pig excrement - by adding lime, settling, then sepg. liq. and solid fractions, both useful as fertilizer
DELAUNAY J P 17.04.78-FR-011170
C04 (31.10.79) C05f-03
D/S: E(BE, DT, GB, IT, NL).

(A) Treatment of pig excrement comprises first adding to it a Ca-contg. material (esp. $CaCO_3$) at about 100 kg per 12 m^3, then allowing the mixt. to stand in a settler for 3-6 (pref. about 4) days. The more liq. portion is then passed to an oxidn. basin to reduce its vol. to about 40% of its original value.

The other portion is passed to a drainage and drying area. The two portions are then useable as fertilizer.

(B) Equipment for this process comprises a mixing pit; a double flocculation-decantation pit; a separator and oxidn. basin, to which air can be supplied under pressure and which has NH_3 sensors to control supply of air.

Odour is rapidly suppressed without dilution of the excrement with washing water. The fertilizer products are not too strong for the soil and eliminate the need for additional liming.
13.4.79 as 400246 (12pp1251)
(F) ISR: FR2020516; NL6902007; FR2371399.

ITII- D15 67326A/38 =GB 1554-826
Propulsion unit anchoring plate - with floats and heating anchors for ice floe underside
ITI ICEBERG TRANSPORT INT 08.03.77-FR-006704
*Q24 (31.10.79) *DT2809-124 +B63h-05*

Underwater propulsion unit for icebergs has a floatation unit with adjustable buoyancy chambers which allow the unit to be urged by Archimedean upthrust against the underside of the ice.

The unit having electrically heated grooved pillers in the form of hollow right prisms on its upper surface which penetrate by melting the ice to ensure positive engagement of the units with the ice.

The units are intended for use during the transportation of ice to provide a source of fresh water. 9.2.78 as 005332 (5pp397)

GSTR- D15 36696A/21 =GB 1554-834
Flocculation control of foreign matter - by photometric check of turbidity of side stream after metered flocculant addition
GST-REGELTECHNIK GM 05.02.77-DT-704816 (01.02.77-DT-704080)
*J04 (31.10.79) *DS2704-816 C02b-01/20*

Controlled floculation/coagulation of foreign substances in liquid is achieved by adding controlled quantities of the reagent to a partial quantity of the fluid and measuring changes in turbidity of the mixed sample.

From the results obtained the optimum quantity of reagent required for the whole volume of fluid can be calculated. The method is suitable for use in daily control tests in a sewage works. The results being quickly obtained from each test (approx. 3 mins.). 27.1.78 as 003447 (19pp397)

BRTO ★ D15 79520B/44 ★GB 1554-
Aerobic treatment of waste water - by agitating the water, oxygenating gas and microorganism-carrying particles, drawing off clean water after settling
BOC LTD 05.08.75-GB-032639
(31.10.79) C02c-01/02

Waste water is treated by agitating it in a vessel togeth with micro-organism carrying particles and an oxygenat gas, stopping agitation, allowing the mixture to settle, draining off the clean water.

The particles may be heavier than water, e.g. anth cite dust or polystyrene, or may be lighter than water, e.g. polythene. In the former case the particles settle the bottom of the vessel and the clean water is drawn fro the top. In the latter case the particles rise to the top a the water is drawn from the bottom.

Bacterial action is facilitated as is sludge sepn. Th invention is of partic. use in the tertiary treatment of w ste water i.e. water having a B.O.D. of ≤50 ppm. 5.8. (1pp525)

BRTO D15 19899B/10 =GB 1554-8
Waste water treatment to reduce BOD - using horizontal fl through microorganism supporting structures with addn. of oxyge
BOC LTD 05.08.75-GB-032637
*(31.10.79) *US4141-823 C02c-01/02*

Aq. waste material having a biochemical oxygen demand treated by establishing a directional flow of the material along an extended path in a treatment vessel.

The vessel has ≥1 support structure extending both along the direction of flow and from side-to-side of the vessel. The vessel supports aerobic microorganisms through which the aq. waste material passes. An oxygenat gas is dissolved at ≥1 position spaced along the vessel. Pref. the oxygenating gas contains > 98 vol% of O_2.

Treatment in such a vessel is both convenient and eff cient and may be employed in an established sewage trea ment plant. The treatment can be operated as a continuo process. 5.8.76 (5pp931)

RIGB/ D15 82872Y/46 =GB 1554-8
Algae and bacterial growth control - in aq. fluids, by applyi magnetic field
RIGBY R A 10.12.75-AU-004244 (29.09.76-AU-018238)
*P13 (D22) (31.10.79) *ZA7607-044 C02b-03/02*

Algae or bacteria in water are treated to inhibit their pr agations or growth by passing the water through a duct where it is subjected to a magnetic field.

Pref. the magnetic field is at right angles to the dire ion of flow. The water is recirculated through the duct a passed through a filtration unit. The magnetic field may produced by a permanent magnet in the duct.

The process is esp. used where recirculation of wate is involved, esp. in cooling towers and swimming pools. 24.11.76 as 049073 (2pp931)

COAL ★ D15 79540B/44 ★GB 2019-2
Ion exchange test appts. - has column for holding test resin with t and bottom stop cocks
COAL INDUSTRY PATENT LTD 20.04.79-GB-013770 (21.04.78-G 015870)
J01 (31.10.79) B01j-01/06

Ion exchange test appts. for testing ion exchange resins comprises a test column for holding resin with top and b -om stopcocks, a feed vessel with a constant head device and a rinse and backwash reservoir with rinse and backwash feed pipes. The stopcocks can be positioned (a) to backwash the column (b) to feed to rinse the column and (c) to stop positions.

The appts. requires a min. number of operations to b performed in testing the resin and produces highly reliab results. 20.4.79 as 013770 (4pp67)

ICIL ★ D15 79565B/44 ★GB 2019-3
Flocculation and removal of suspended negatively charged solid by adding of positively charged particles, then using gravit electrostatic, or magnetic sepn. technique
IMPERIAL CHEM INDS LTD 23.03.79-GB-010264 (20.04.78-G 015655)
J01 (D16) (31.10.79) C02b-01/20

Inorganic or organic matter suspended in a liq. and havi a net negative charge is removed by adding a particulate material having a net positive charge, so that the suspended matter flocculates around and adheres to the particles, which are then removed from the liquid. The process is applicable to e. g. removal of microorganisms, waste water solids, insolubilised enzymes, xanthan gums, single cell protein etc. from suspension.

The flocs may be sepd. by settling, or if the particles are ferromagnetic, by magnetic or electrostatic means. The particles are e. g. sand or magnetite if magnetic sepn. is desired. If the particles have a negative charge, this may be changed to a positive one by treatment with a soln. of a divalent or trivalent metal salt at a suitable pH., e. g. $FeCl_3$ or alum. A polyelectrolyte may also be used. 23. 3. 79 as 010264 (4pp955)

TAKE ★ D15 79566B/44 ★GB 2019-379

Removing phosphate(s) from waste water - by admixture with sea-water and adjustment to pH 9 to 11 to give sediment

TAKEDA YAKHIN KOGYO 30.06.78-JA-079894 (21.04.78-JA-048159)

A97 C04 (A14) (31.10.79) C02b-01/20

Phosphates are removed from waste water by coagulation and sedimentation after the waste water has been mixed with sea water (95-5-1:1) and adjusted to pH 9-11.

Pref. the waste water and sea water are mixed in a 90:10 to 70:30 ratio, and the mixt. is adjusted to pH 9. 3-10. 5. Suitably a polymeric organic coagulant is also added to the water, esp. an anionic coagulant such as Na polyacrylate, a salt of a partly hydrolysed polyacrylamide or a salt of a maleic acid copolymer, or a cationic coagulant such as polyvinylpyridine HCl or a salt of a vinylpyridine copolymer. The coagulant may also be non-ionic such as diallyldimethylammonium chloride polymers, polyacrylamide, polyethylene oxide or polyvinyl alcohol. Pref. 0. 1 -50 ppm coagulant is added to the water mixt.

Process has improved efficiency, is economic and results are satisfactory with water contg. municipal sewage, industrial effluents, etc. The sediment may be used as phosphatic fertiliser. 20. 4. 79 as 013890 (9pp1248)

KUBI ★ D15 79654B/44 ★J5 4120-682

Attaching partition plates to plastic purifying baths - by using a bath with stepped sidewalls, and attaching the plate to it at an angle, with tapping screws

KUBOTA KK 13.03.78-JA-028531

A92 P28 Q32 (19.09.79) A47k-11 B29c-27 B65d-25/08 C02c-01

The bath consists of upper and lower mouldings of thermosetting synthetic resin which are connected through sealing flanges. Stepped parts are formed on the side walls, according to the desired angle of the partition plates. The locating plane of the lower partition plate is formed in contact with the stepped part of the lower moulding, and is fixed to it by a tapping screw.

Leaks are avoided. 13. 3. 78. as 028531 (3pp142)

NIPC ★ D15 79701B/44 ★J5 4120-940

Treating water glass-contg. grouting effluent - by adding water-soluble alkaline earth metal salt

NIPPON CHEM IND KK 13.03.78-JA-027710

L02 (19.09.79) C02b-01/24 C02c-05/02

Water glass-bearing grouting effluent resulting from the stabilisation of soil and outflow of water in engineering works is neutralised without generation of white turpidity due to formation of colloidal silica, by adding a water-soluble alkaline earth metal salt, e. g. $MgCl_2$, $MgSO_4$, $CaCl_2$, CaO and $Ca(OH)_2$ etc. or matter containing the metal salt, e. g. sea water etc. in amt. such that the molar ratio, M/SiO_2 (M represents Ca or Mg) becomes $\geq$0. 3 and the pH value becomes >8. 5, pref. followed by stirring to make insoluble silicic ion and therefore form an easily separable ppte.

Pref. (in)organic coagulant is added. When the pH of the treated effluent is considerably high, CO_2 is pref. admitted to neutralise and make insoluble excess added metal salt and Ca^{2+} ion coming from cement. The ppte. formed in this process exhibits excellent separability and is very active, thereby harmful heavy metal ions are adsorbed on it. 13. 3. 78. as 027710 (6pp34)

NIOF ★ D15 79702B/44 ★J5 4120-943

Treating waste water contg. pollutants and inorganic nitrate(s) - by electrochemical reaction and flotation

NIPPON OILS & FATS KK 11.03.78-JA-028092

J03 (19.09.79) C02c-05/12

Waste water contg. pollutants and inorganic nitrate(s), e. g. ammonium nitrate, $NaNO_3$, KNO_3 and $Ca(NO_3)_2$ etc. is purified to remove the pollutants by electrochemical reaction and flotation by first immersing Al(alloy) anode plate and cathodeplate opt. of a different metal in the waste water.

Direct current is then passed between the electrodes to cause electrochemical reaction between the inorganic nitrate and the metal electrodes to a gel-like Al hydroxide on which the pollutants are adsorbed. The pollutants-adsorbed gel-like Al hydroxide rises by flotation-coagulation to the surface of the water by the action of electrolysed gas by-produced in the electrochemical reaction.

When the inorganic nitrate(s) is not contained in the waste water to be treated, it must be added prior to the treatment. By this process, all colloidal Al rises to the surface of the water to leave clarified water. 11. 3. 78. as 028092 (5pp34)

EBAI ★ D15 79703B/44 ★J5 4120-946

Treating backwash effluent from magnetic sepn. of waste water - by using magnetic iron oxide and inorganic metal salt coagulant which can be recovered, flotation sepg., dewatering etc.

EBARA INFILCO KK 13.03.78-JA-028383

(19.09.79) C02c-05

A back-washing effluent from treatment of waste waters by the magnetic sepn. process, comprises using magnetised iron powder (Fe_3O_4) and inorganic metal salt coagulant. The back-washing effluent is treated to recover in high yield and high purity the magnetised iron for reuse and simultaneously to recover the coagulant which is recirculated to subsequent water treatment opt. with a small amt. of the coagulant by adding acid or alkali to dissolve metal hydroxide(s), e. g. of Al, Fe, Zn and Mg etc. from the inorganic metal salt coagulant while suppressing dissolution of the magnetised iron powder as low as possible.

The effluent is treated to flotation sepn. e. g. by injection of air-dissolved compressed water to separate it into conc. (in)organic solids layer (top layer), a coagulant layer (middle layer), and a magnetised iron powder sludge (bottom layer). The (in)organic solids layer is easily dewatered and calcined. 13. 3. 78. as 028383 (2pp34)

NIKO- ★ D15 79760B/44 ★J5 4121-278

COD redn. of ammonia-contg. waste wash soln. - used for descaling copper from boilers, heat exchangers, pipes, etc.

NIPPON KOGYO SENJO 14.03.78-JA-028291

J01 (20.09.79) C02c-05/02

The method comprises adding an acid, e. g. HCl or H_2SO_4, to the waste soln. to adjust its pH to 5. 8-8. 6%; adding sulphite and sulphide to ppte. cuprous sulphide; separating the pptd.; and adding oxidising agent to the supernatant soln. to reduce the COD.

The oxidising agent is persulphate, bleaching, hypochlorite or permanganate; the sulphite is sodium, potassium or ammonium sulphite; and the sulphide is sodium potassium or ammonium sulphide. The concn. of Cu ions can be reduced to 0. 12 ppm, and the COD can be reduced to 25 ppm. 14. 3. 78. as 028291 (4pp51)

KUBI ★ D15 79761B/44 ★J5 4121-279

Treating waste soln. previously used in gas absorption - by adding caustic soda and iron sulphate, settling, and electrolytically removing BOD and COD components from supernatant

KUBOTA KK 14.03.78-JA-029536

J01 (20.09.79) B01d-53/14 C02c-05/02

The method comprises introducing the waste absorbing solution from a storage tank into an aggregation tank, adding caustic soda from a tank and an iron type absorbing agent, such as, iron sulphate, from a tank, to the aggregation tank to obtain an aggregated substance; introducing the substance into a settling tank to settle it therein, introducing a supernatant solution from the tank into an electrolytic treating tank equipped with electrodes, electrolysing it, decomposing COD and BOD components of the supernatant solution with the generated oxygen to obtain a purified solution, recycling one portion of the purified solution with a pump to the tank to maintain electrolysed load of the solution to be constant, and introducing the other portion thereof into a neutralising tank to neutralise it with a neutralising agent therein. 14.3.78. as 029536 (4pp51)

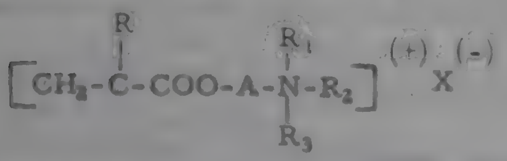
NREN ★ D15 79763B/44 ★ J5 4121-282
Purificn. of water using ion exchange resins - involves passing regenerating soln. through anion exchange resin, washing with water, dispersing resin e.g. with gas and water washing
NIPPON RENSUI KK 15.03.78-JA-029439
J01 (20.09.79) B01j-01/09 C02b-01/76

In treating water with a highly acidic cation exchange resin, and then passing it down through a tower of a weakly basic anion exchange resin to obtain purified water, the improvement comprises passing down a regenerating soln. through the tower to regenerate the anion exchange resin, washing the regenerated resin with water, introducing a gas or back-washing water from the bottom of the tower into the regenerated resin to uniformly disperse it , and then washing the uniformly dispersed resin with water.

In an example, water to be treated was introduced into a tower of a highly acidification exchange resin, and then a tower of a weakly basic anion exchange resin to obtain purified water. The used anion exchange resin was regenerated with a down flow of a regenerating soln. of NaOH, washed with water, uniformly dispersed with an upper flow of air from the bottom of the resin, and washed with water, again, to obtain a bed of uniformly dispersed and regenerated resin. 15.3.78. as 029439 (4pp51)

TOAG ★ D15 79777B/44 ★ J5 4121-557
Treatment of inorganic salt-contg. sludge - by adding cationic polymer contg. a quat. ammonium salt monomer unit to dewater it
TOA GOSEI CHEM IND LTD 15.03.78-JA-028602
A91 (20.09.79) B01d-21/ C02c-03*

A sludge esp. containing a large amt. of inorganic salt(s) ($>$0.5 wt.%) is effectively dewatered by adding a cationic polymer contg. as a constituent of monomer a quat. ammonium salt of formula (I):



$$\left[CH_2-\overset{R}{\overset{|}{C}}-COO-A-\underset{R_3}{\underset{|}{\overset{R_1}{\overset{|}{N}}}}-R_2\right]^{(+)}X^{(-)}$$

(I)

where R is H or CH_3; R_1 and R_2 are1-4C alkyl, R_3 is benzyl, A is 2-4C aliphatic radical; $X^{(-)}$ represents an anionic radical capable of forming NH_3=N and salt. The sludge containing a large amt. of the inorg. salt(s) is e.g. a sludgedischarged from night soil-treating station, Hedoro, i.e. a sludge accumulated at the bottom of harbours and a sludge resulting from treatment of industrial waste waters etc .

The quat. ammonium salts are e.g. dimethylaminoethylacrylate or methacrylate, dimethylaminopropylacrylate or methacrylate, quaternised with a benzyl halide. The cationic polymer(coagulant) is prepd. by copolymerising the quaternary ammonium salt with a copolymerisable monomer, e.g. acrylamide and N-vinylpyrolidone etc. if necessary together with another monomer by a conventional process. 15.3.78. as 028602 (8pp34)

TOMO- ★ D15 79778B/44 ★ J5 4121-558
Treating of cake dewatered by centrifugation - by adding calcium oxide, giving prod. useful as landfill material
TOMOE KOGYO KK 15.03 78-JA-028664
C03 (20.09.79) A01n-07/02 B01j-01 C02f-03

Cake obtd. by dewatering by centrifugation of sludge, e.g. resulted in biological treatment of waste waters or in filtration plant etc. is converted by solidification from plastic state to granular state by adding CaO in an amt. of 5-30 wt.% based on the amt. of solids contained in the dewatered cake.

The solidified cake exhibits simple workability in transportation and is supplied tolandfill sites without heaping- up of soil, and exhibits only minimal odour, due to its alkali nature. It is useful as soil-improving agent for acidic soil. CaO reacts with H_2O contained in the cake to form $Ca(OH)_2$ which then reacts with CO_2 in air to form $CaCO_3$. A portion of $Ca(OH)_2$ reacts with aluminates or silicates contained in inorganic material to form Ca aluminate or silicate, thereby the cake loses plasticity and finally is converted by solidification to granular state. 15.3.78. as 028664 (3pp34)

EBAI ★ D15 79779B/44 ★ J5 4121-5
Biological purificn. of night soil polluted water - involves addn. magnesium cpd., denitrification of liquor obtd., addn. phosphoric acid (ester) etc.
EBARA INFILCO KK 15.03.78-JA-030156
(20.09.79) C02c-01

A night soil- type polluted water contg. a large amt. of ammoniacal N and PO_4^{3-} is subjected to a biological purifc treatment without addn. of carbon source, by (i) adding a Mg cpd., e.g. $Mg(OH)_2$ MgO, Mg salts and sea water etc. to settle-out the PO_4^{3-} in the form of NH_4MgPO_4 followed by solid-liq. sepn.; (ii) flowing liquor thus sepd. from the ppte into a biological denitrification step comprising nitrification and denitrification steps to remove biologically the remaining portion of ammoniacal-N and BOD components; (iii) taking-out a portion of the liquor sepd. from the ppte followed by adding a phosphoric cpd. e.g. H_3PO_4 and phosphates etc. and the Mg cpd. to form a ppte which is then subjected to solid-liq. sepn.; and (iv) supplying the liquor thus sepd. from the ppte to the denitrification step subsequently to the nitrification step in the biological denitrification step.

The NH_4MgPO_4 ppte is available for use as fertiliser. 15.3.78. as 030156 (4pp34)

HIEJ ★ D15 79780B/44 ★ J5 4121-561
Purificn. of waste liquor in fluorine-adsorption treatment - by adding calcium salt, sedimentation, treating with alkali, contacting with adsorbing agent and repeating
HITACHI PLANT ENG CONST 15.03.78-JA-030405
(20.09.79) C02c-05/02

The waste liquor is treated to remove economically, therefrom fluorine in high efficiency without any special appts. by adding a Ca salt, e.g. $Ca(OH)_2$ and $CaCl_2$ etc. to form a ppte followed by solid liquid sepn., e.g.by sedimentation, adjusting the pH value of the supernatant liquor to $>$10.5 with pH-adjusting agent, e.g. NaOH etc., contacting the pH-adjusted supernatant liquor with a fluorine-adsorbing agent which can be regenerated, e.g. alum etc., carrying-out the regeneration of the adsorbing agent when it is satd. with fluorine, adding the regenerating waste liquor to the former fluorine-contg. waste liquor to be treated, and repeating the adsorption and regeneration treatments with the regenerated adsorbing agent.

Process is used in regenerating waste liquor in fluorine content, esp. from regenerating fluorine-adsorbed activated alumina or ion exchange resin with alum, H_2SO_4 or HCl etc. 15.3.78. as 030405 (3pp34)

KUBI ★ D15 79781B/44 ★ J5 4121-564
Appts. for denitrifying waste water - comprises pH adjusting vessel, oxidising vessel using activated sludge and reducing vessel using activated sludge and organic carbon source
KUBOTA KK 14.03.78-JA-030216
(20.09.79) C02c-01/06

The appts. comprises a pH-adjusting vessel in which the waste water is made weakly alkaline, an oxidising vessel in which the pH-adjusted waste water is oxidised with activated sludge, a reducing vessel wherein the treated water is reduced with activated sludge in the presence of org. carbon source, a means for separating the activated sludge from the water thus treated, a path supplying the reduction-treated water from the reducing vessel to the pH-adjusting vessel, and a means for recirculating a sludge obtained in the separating vessel to the reducing vessel as the org. carbon source.

The denitrified water exhibits very high alkalinity, thereby it is used as the alkali in the pH-adjustment; and the activated sludge is used as the org. carbon source.

ASAG ★ D15 79917B/44 ★J5 4122-616
Collecting uranium from e.g. sea-water - includes using high molecular absorber, made of a fluoro-polymer with phosphorus in the ion exchange radical
ASAHI GLASS KK 17.03.78-JA-029816
A91 K05 M25 (22.09.79) B01d-15 C22b-60/02

Uranium is recovered from sea water or from a soln. containing U-100 ppm by using a high molecular absorber and is characterised in that the high molecular absorber is made of a fluoro polymer having P in the ion exchanger radical such as a phosphonic acid radical (gp.), phosphinic acid radical, mono ester phosphate or similar ion exchange radical, or is made of polystyrene type copolymer with a F contg. phosphate ester radical. The density of the P contg. ion exchange radical in the high molecular cpd. $>$ 0.2 mm equivalent/1 g(high molecular compound).

The high molecular cpd. may be obtd. by reacting a fluoro polymer with H_3PO_3 or dialkyl phosphorous ester $[HP(O)(OR)_2]$ or by linking a polystyrene type copolymer with divinyl benzene. The U absorber may be shaped as porous pellets. 17.3.78. as 029816 (5pp135)

TOYM ★ D15 79943B/44 ★J5 4122-678
Hollow thread type membrane sepn. appts. - comprises cylindrical vessel contg. columnar hollow thread part, with resin walls at one end of thread layer
TOYOBO KK 15.03.78-JA-030165
J01 (22.09.79) B01d-13 B01d-53/22 C02b-01/82 C02c-05/02

The membrane sepn. appts. comprises a cylindrical vessel contg. a columnar hollow thread assembly part. This comprises a hollow thread layer made of a lot of hollow threads of selective permeability to a fluid, and resin walls which are located at one end of the hollow thread layer. The hollow thread in the hollow thread layer penetrates $\geqslant 1$ of resin walls and has its opening outside the wall. A pressure receptor plate with $\geqslant 1$ surface filled with linear protuberances, is provided, so that the top of the protuberance contacts the opening of the hollow thread.

An improved sepn. method is provided using a membrane of selective permeability. 15.3.78. as 030165 (5pp55)

KURK ★ D15 80076B/44 ★J5 4123-243
Chloride removal from water - by contacting with a supported catalyst comprising a cobalt and/or nickel salt
KURITA WATER IND KK 16.02.78-JA-015936
E36 (25.09.79) B01j-23/74 C02b-01/23

Chlorine is effectively removed from water by contacting the water with a catalyst prepd. by contacting a carrier, e.g. zeolite and alumina etc. with an aq. soln. of Co and/or Ni salt, e.g. $CoCl_3$, $NiCl_2$, $Co(NO_3)_3$, $Ni(NO_3)_2$, $Co_2(SO_4)_3$ and $NiSO_4$ etc. under an ordinary temp. and pressure; opt. washing the Co- and /or Ni-ion-adsorbed carrier with water so as to remove Co- and/or Ni-ion only at the activated points of the carrier; and subsequently contacting the carrier thus treated with aq. alkali soln. of chlorinating agent, e.g. NaClO, Cl_2 etc.

In a modification, the carrier washed with water may first be heated to convert the Ni- and/or Co-ion into corresponding oxide(s) prior to contacting with the aq. alkali soln. of the chlorinating agent. The alkali to be used with the chlorinating agents are, e.g. NaOH and KOH etc. 16.2.78. as 015936 (4pp34)

HITB ★ D15 80077B/44 ★J5 4123-247
Treatment of raw sewage and derived sludge - by (an)aerobic treatment with coagulation dewatering of sludge using cationic coagulant, then mixing and activated sludeg treatment
HITACHI CHEMICAL KK 16.03.78-JA-030267
(25.09.79) C02c-01/02 C02c-03

In treatment of raw night soil and a sludge resulting in night soil-purifying and-storage vessel, the improvement comprising subjecting the raw night soil to an aerobic or anaerobic treatment, whilst subjecting the sludge to a coagulation dewatering treatment by the use of a cationic coagulant, blending together each of the treated liquors, and subsequently subjecting the mixt. to an activated sludge treatment, so that load in the (an)aerobic raw night soil treatment is decreased and stabilised, and at the same time the sludge is dewatered and dried.

A treated water is obtd. having BOD concn. of $<$.500 ppm and BOD removability of $>$ 90% by subjecting only the sludge to the coagulation dewatering treatment, and therefore the treated water is easily purified by a secondary treatment. The dewatered and dried sludge is available for use as soil-improving agent. 16.3.78. as 030267 (3pp34)

MATU ★ D15 80078B/44 ★J5 4123-249
Treating COD components in effluent - e.g. tartaric acid, citric acid, malic acid, etc., by contacting with ferric oxide, opt. with stirring
MATSUSHITA ELEC IND KK 17.03.78-JA-031378
(25.09.79) C02c-05/02

Organic COD components in effluent are economically decreased, in a simple manner, by contacting the effluent with Fe_2O_3, opt. under stirring.

Rust formed on the surface of scrap iron exhibits the same effect, so that the COD components can be removed by simply charging scrap iron into an aeration vessel for effluent treatment, giving little pressure loss and blinding. 17.3.78. as 031378 (3pp34)

HOSO ★ D15 80079B/44 ★J5 4123-250
Calcium-contg. water-treating agent prepn. - by mixing calcium cpd. and aluminium cpd. and calcining, used e.g. for treating effluent contg. soluble polymers
HOKKAIDO SODA LTD (SUMI- AGEM) 18.03.78-JA-031408
A35 F09 (25.09.79) C02c-05/02

The treating agent is prepd. by uniformly mixing together a Ca cpd. capable of forming CaO by calcination, e.g. $Ca(OH)_2$, $CaCO_3$ and $CaCl_2$ etc. and an Al cpd. capable of forming Al_2O_3 by calcination , e.g. $Al(OH)_3$, $AlCl_3$ $Al(NO_3)_3$ and $Al_2(SO_4)_3$ etc. in such amts. that the wt. ratio between CaO and Al_2O_3 becomes 40/60 to 85/15 pref. 70/30 to 80/20, after calcination, and subsequently calcining the mixt. at 1200 to 1600°C, pref. 1200 to 1400° C, for 30 min. to one hr.

The agent exhibits excellent adsorbability against water-soluble polymer cpds. difficult to be removed, esp. starch and PVA etc. It is suitable for use in the treatment of effluents contg. water-soluble polymer cpds. e.g. PVA starch, CMC etc., emulsified effluents from suspension polymerisation of synthetic polymers and pulp mill effluents, etc. 18.3.78. as 031408 (5pp34)

KYOW ★ D15 80115B/44 ★J5 4123-578
Device for concentrating waste liquor - contg. alcohol fermentation and distn. waste, glutamic acid, lysine etc., comprises liquid-hot gas rotary counterflow contacting column
KYOWA HAKKO KOGYO KK 20.03.78-JA-030989
B05 J04 (D16) (25.09.79) B01d-01/14

The device is for concentrating a liquid or muddy fluid in contact with a counterflow of a hot gas in a liquid-gas contacting column. The fluid includes waste liquors of fermented and distilled alcohols, glutamic acids, and lysine. The object is to produce a product having a high solid content without deposition of scale due to local heating of a rotator for contacting the liquid with the gas.

The device comprises a fluid disperser disposed in an upper space of the column, fluid reservoir disposed in a lower space of the same, and hot gas blowing nozzle for feeding the gas into the rotator made of a net, a part of which is in contact with the fluid contained in the reservoir. The fluid fed into the disperser drops through the rotator, while the gas flows upward therethrough during rotation. 20.3.78. as 030989 (8pp26)

HOSH- ★ D15 80116B/44 ★J5 4123-579
Water purifying device - has ice forming and melting appts. including inclined plate, freezing system, heater etc.
HOSHIZAKI DENKI 17.03.78-JA-031630
(25.09.79) C02b-01/12

Clean water is supplied, through a reservoir,by freezing the dirty water contg. impurities to separate them and then the ice is thawed into pure drinkable water. The clean water is produced at low cost, using a compact device which is conveniently maintenanced.

The device comprises an ice-making unit, a water tank disposed below the unit and a unit for melting ice. The unit has an inclined plate for forming ice while water flows down over it. The ice-melting unit is disposed between the ice-making plate and the water tank includes a coolant piping connected to a freezing system of the ice-making unit. The ice-melting unit also has a heater. 17.3.78. as 031630 (8pp26)

NREN ★ D15 80117B/44 ★J5 4123-580

Continuous regeneration of loaded ion exchange resin - with descending water flow used to compact resin

NIPPON RENSUI KK 20.03.78-JA-032025
J01 (25.09.79) B01j-01/09

In the continuous regeneration of loaded ion exchange resin by passing a certain amt. of the loaded ion exchange resin discharged at certain intervalsfrom ion exchange tower to the under part of a perpendicular tubular generating washing tower so as to raise the resin step-wise in the washing tower, carrying-out the regeneration and water-washing of the rising resin in step, and discharging at certain intervals and certain amt. the regenerated and water-washed resin from the upper part of the washing tower.

The improvement comprises admitting downwardly water into the regenerating washing tower from its upper part after the loaded ion exchange resin is sent to the under part of said the tower so as to press the resin in the tower to the underside and to fill-up cavities of the resin at the under part of the tower, so that it becomes possible to carry-out effectively the regeneration of the resin without any looseness, disturbance and slipping-down of resin layer in the washing tower. 20.3.78. as 032025 (5pp34)

KINZ- ★ D15 80129B/44 ★J5 4123-700

Desorption of uranium from titanic acid adsorbent - using carbonic acid alkaline soln., in the extn. of uranium from sea-water

KINZOKU KOGYO JIGYO 16.03.78-JA-029237
E31 K05 M25 (26.09.79) C01g-43 G21f-09/12

In the desorption of uranium from a uranium adsorbent of titanic acid which adsorbs uranium contained in sea water, a carbonic acid alkaline soln. is used, as the desorbent, having a carbonic acid radical concn. of 0.4 mol/l and a quantity index $M_1/(W_2/22.2)$ of 1-30 when M_1 is the mol. number of carbonic radicals and W_2 is the dry weight of titanic acid. It is possible to effectively desorb uranium from a uranium absorbent.

Typically, a titanic acid absorbent has a mean particle dia. of 0.25-0.5 mm and is packed into a column 3 cm in dia. Sea water at 27°C is passed through the column at a flow rate of 100 ml/min. for 7 days to adsorb the uranium. The adsorbent is washed with water and removed from the column. The absorbent is mixed with 30 ml of a desorption soln. contg. 1 mol/l of sodium hydrogencarbonate. The mixt. is shaken at 50°C for 7 hours. The uranium elution rate is 96% and the uranium concn. in the soln. is 14.4 ppm. 16.3.78. as 029237 (5pp86)

KING D15 64792Y/36 =J7 9030-996

Electrolytic treatment of liq. suspension - following electrostatic treatment preventing plating out on electrodes of electrolytic treater

KING PACKAGING LTD (KING/) 10.08.76-US-713251
*J01 P41 (D13) (04.10.79) *US4045-326 B03c-05 C02c-05 +B01d-21 B01j-01*

Fluids are exposed to an electric field in an appts. which includes an outer, hollow, cylindrical electrode surrounding an inner cylindrical coaxial electrode. There are intermediate electrodes which concentrate the field and are arranged in a circular pattern concentrically about the inner electrode. The electrodes are connected across a source of electric potential with the inner and outer electrodes being connected to the same side of the source, and the intermediate electrodes all being connected to the opposite side.

Used for treating a particle laden liquid, e.g. from a dairy, the output of which may consist of a liq. suspension contg. whole milk, cream, butterfat, yoghurt and even unrelated substances such as sovbean oil and sewage. The lines of force in the treater are concentrated in radially extending groups and repetitive passage of the suspension through these gps. enhances flocculation. 1.7.77 as 078965 (clg. 10.8.76-US-713251) B01j-1/00; B01d-21/ B03c-5/00; C02c-5/00 (4.10.79) KING PACKAGING LT (7pp) (J53021077)

KURK ★ D15 80240B/44 ★J7 9031

Treating waste water from animal or fish meat processir comprises adjusting pH to 5 to 6 and adding sodium polyacrylat coagulant

KURITA WATER IND KK 27.04.76-JA-047225
A97 (D12) (05.10.79) C02c-01/06

The waste water is adjusted to pH 5-6 with acetic acid hydrochloric acid and 40-350 ppm sodium polyacrylate, coagulating agent, is added. The coagulated material (such as solidified protein particles) is made to float or the surface of the treating tank.

Process is useful for treating waste water having a content of protein. 27.4.76 as 047225 C02c-1/06 (5.10 KUNTA WATER IND. KK (3pp15) (J52131645)

ASAH D15 57436V/32 =J7 9031-

Partition membranes prepn. - haloalkene polymer impregna with alkali silicate and treated with acid

ASAHI CHEMICAL IND KK 20.04.72-JA-039106
*A88 (A14) (06.10.79) *J49000-176 +B01d-13/02 C08j-05 C08j-07/14 C25b-13/08*

A porous base membrane derived from a polymer of CF_2:CRR' (R, R'=H, halogen, or halomethyl) and having cells with min. diam. >0.8 μ is impregnated with an a ali silicate soln. and treated with acid to give a partitio membrane with good chem. resistance.

In an example, 2 kg 9-μ-diam. x 0.05-mm glass fibres was heated at 400° to remove impurities, cooled, ar mixed with 6 kg PTFE; the mixt. was pressed 20 min. in a 60x60 cm mould at 21 kg/cm², transferred to an ove heated gradually to 370° in 15 hrs., kept 7 hrs. at 370° and cooled to room temp. in 15 hr. to give a moulding with apparent d. 1.93 and 15% voids.

The moulding was cut to 0.2-mm thickness, immerse 48 hrs. in HF to remove glass, washed, immersed 2 hr. in 25% aq. Na silicate at 70°, immersed 18 hrs. in 9N H_2SO_4 at room temp. to give a membrane with sp. cond. 13.2 x 10^{-3} mho/cm and water permeability 0.70 l/m^2-hr., compared with 14.3 x 10^{-3} and 64 for a similar membrane before silicate treatment. The former was u changed after 4000 hr. in an aq. soln. satd. with SiO_2 an Cl at 60°. 20.4.72 as 039106 C25b-13/08; B01d-13/02; C08j-5/18; 7/14 (6.10.79) ASAHI CHEM. IND. CO. LTD (7pp) (J49000176)

INOZ ★ D15 80271B/44 ★J7 9031-7

Appts. for water pollution measurement - comprises contain holding membrane, salt soln., electrodes and ultrasonic generator

INOUE JAPAX RES INC 21.10.71-JA-083618
R16 (09.10.79) G01n-27/38

In the appts. consisting of a container holding membran salt soln. and electrodes, there is further supplied an ul trasonic generator. The ultrasonic waves are amplified and act on the membrane.

The appts. can measure water pollution at high accuracy. 21.10.71 as 083618 G01n-27/38 (9.10.79) INOUE JAPAX RES. INST. (3pp22) (J48048188)

WIBA D15 37185T/23 =NL-161-6

Liquid solid separator - for clarifying liquids contg suspended solids

WIBAU-WDEUT IND STRASSEN 30.11.70-DT-058838
*J01 (15.10.79) *BE-775-880 B01d-21*

A sepg. tank for removing suspended solids from a fluid is equipped with an end sepn. chamber which is partitioned off from the main tank by means of a double wall. The wall nearest the main tank forms an overflow and the space between the two walls forms a downflow channel before the flow turns around the bottom of the second wall and upwards into the end sepn. chamber.

In order to accommodate increasing throughputs of fluid, the wall is hinged at its lower end so that the angle of inclination of the wall can be varied and hence the size of the end sepn. chamber. 16.11.71 as 015739. (3pp1170)

SIMM- ★ D15 B/44 ★OE 7807-131
Industrial waste waters purificn. and/or neutralisation
SIMMERING-GRAZ-PAUK 03 10.78 OE-007131
(15.10.79) C02c-01/40 C02c 05/02

ANDZ ★ D15 B/44 ★OE 7807-677
Dewatering machine control
MASCH ANDRITZ AG 27.10 78-OE-007677
(15.10.79) C02c-03

MLCI= ★ D15 80302B/44 ★SU -645-941
Defluorination of artesian well water - by controlled treatment with clay suspension and aluminium sulphate, settling and filtration
MOLD CIVIL AGRIC 14.06.76-SU-376117
E33 (05.02.79) C01b-07/19 C02b-01/20

Artesian well water is defluorinated by addn. of suspended $Al_2(SO_4)_3$, clarification, settling and filtration.

Filtration rates are more rapid and less $Al_2(SO_4)_3$ is required, by operating as follows: treatment is conducted with $Al_2(SO_4)_3$ in presence of suspended clay at a feed rate of 1.2-2.0 mm/sec. of the stream under purification. 100-200 mg/l. clay are used in the suspension and the ratio $Al_2(SO_4)_3$:clay = 1:1-1:0.5.

Fainshil', Ya.L. Bul. 5/5.2.79. 14.6.76 as 376117 (2pp 835)

WATE= ★ D15 80374B/44 ★SU -646-971
Rice field herbicide drain water contamination prevention - by layer of loam contg. sodium or ammonium humate and opt. potassium or ammonium chloride
WATER CONSERVATION (USOI=) 23.11.76-SU-427867
C03 (18.02.79) A01n-07/02

The contamination of drainage water with herbicides in the rice field irregation systems is prevented by the use of barrier layer below the root level.

The removal of herbicide by water from the rice field is prevented by forming 10 cm. thick barrier layer in the drain end of the rice field after removal of top soil, after which the top soil is replaced.

The paste used for making above layer contains (in wt. %) loam 65-70; sodium or ammonium humate and water the rest. If the rice field soil has high water-permeability 0.2-2.0 wt.% potassium or ammonium chloride is added to the paste.

Belonenko, G.M., Vernichenko, A.A., Gonchirov, I. Ya. et al. Bul. 6/15.2.79. 23.11.76 as 427867 (3pp938)

FEPU ★ D15 80384B/44 ★SU -647-001
Water clarifier to remove oil and suspended impurities - has multistage settling tank where oil floats and is partly removed and partly recirculated
FERR METAL EFFL PURIF 10.05.77-SU-484082
(15.02.79) B01d-21/14 C02c-01/26

Multistage settling tank for purifying effluent waters from suspended matter and oil, includes a body, tangential pipes for admitting the waters, peripheral perforated partitions, forming a distribution chamber with the body, horizontal diaphragms, means to collect and remove the clarified water and the oil, central shaft with lower and middle ribs bearing scrapers for removing the residues, and slime-removing pipe. Clarifying effectiveness is increased, as a result of creating a partial circulation of the slimes, by providing slime-removing compartments with sloping bottoms with holes in the diaphragms around the circumference. The slime-removing compartments are placed underneath the holes and have outlets into the distri-buting chamber.

Bakutkin, E.A., Levskii, S.N., Margolin, M.I. et al. Bul. 6/15.2.79. 10.4.77 as 484082 (3pp29)

LENI ★ D15 80389B/44 ★SU -647-006
Sorbent for protein removal from waste water - contg. silica-gel and titanium and tungsten oxide s), used in microbiological vitamin-protein concentrate mfr.
LENINGRAD LENSOVET TECH 11.08.77-SU-521437
J01 (15.02.79) B01j-01/22 C02c-05/02

The sorbent is used for waste water purificn. in micro-biological synthesis of protein-vitamin concentrates from hydrocarbons.

The sorbent comprises (in wt.%): SiO_2-gel 50-75, TiO_2 6-20, WO_3 19-30.

Addn. of WO_3 increases the sorption capacity.

Volkova, A.N., Yakovlev, V.I., Zhmylev, B.A. et al. Bul. 6/15.2.79. 11.8.77 as 521437 (2pp835)

LEBA= ★ D15 80466B/44 ★SU -647-250
Sodium poly-phosphate of Graham salt type - produced by rapid cooling of mono:sodium orthophosphate melt and used for water softening
LENGD BASIC CHEM IN 23.06.77-SU-509654
E34 (18.02.79) C01b-25/40

Sodium polyphosphate (I) of Graham's salt type useful for water softening in steam power plant, railways and textile and petroleum inds. is prepd. by fusing monosodium orthophosphate at 650-800°C followed by rapid cooling of the resulting melt.

The prod. purity is increased if the melt is cooled at 45-55°C/min. rate using 5-20 mm. thick layer.

The final prod. contains 62.5% (I). The above method reduces the prod. cost of (I).

Fomina, E.A., Leonteva, L.A., Arsentev, V.M. et al Bul. 6/15.2.79. 23.6.77 as 509654 (3pp938)

ABGE= ★ D15 80470B/44 ★SU -647-255
Flocculant for clay-salt suspensions - contg. aq. polyacrylamide, formaldehyde and urea for high clarification rate
AS BELO GENERAL IND 19.04.77-SU-476027
A97 J01 (A14) (18.02.79) B01d-21/ C02b-01/20*

The flocculant is used for mineral enrichment or for de-watering, e.g. clay-salt suspensions in potash works, and contains polyacrylamide and HCHO.

Addn. of urea enhances the flocculating effect.

The flocculant comprises (parts/wt.): polyacrylamide 0.9-1.1, HCHO 0.8-1.4, urea 0.8-1.5. The product improves clarification rates 1.5-2 fold. Filtration times are not adversely affected.

Mozheiko, F.F., Ivanova, N.S., Domovskaya, T.G. et al Bul. 6/15.2.79. 19.4.77 as 476027 (3pp835)

ROEN= ★ D15 80471B/44 ★SU -647-256
Water clarifier using coagulant - added to incoming water which is passed through suspended layer of enlarged flocs to complete clarification
ROST ENG CONS INST 04.05.77-SU-482581
(15.02.79) B01d-21/02 C02b-01/20

Clarifier with a suspended layer of residue for the purification of potable and industrial waters, incorporates a body, in the centre of which is a floc-forming chamber and a working chamber and, at the circumference a sediment thickener with a system to take away the residues.

Clarification effectiveness is increased, as a result of forming the suspended layer from enlarged flocs, by providing a distributor/drainage system between the floc-forming chamber and the working chamber, in the form of a grating made up of diffusers of pyramidal shape, the smaller bases of which point towards the floc-forming chamber.

Mikhailov, V.A., Turyanskii, I.P., Lysov, V.A. Bul. 6/15.2.79. 4.5.77 as 482581 (3pp29)

ROVO= ★ D15 80472B/44 ★SU -647-257
Liquid effluents aerator - has coaxial tubes, with impure water rising up outer and overflowing into inner tube via cones into which air is drawn
ROST VODOKANALPROEK (VOLG=) 22.08.77-SU-522003
(18.02.79) B01f-05/04 C02c-01/10

Device for aerating liquids, e.g. the saturation of effluents, comprises a water-conducting pipe in which is an aeration tube with a cone at its upper end, above which an air-intake tube with a conical attachment is located. A stable aeration effect, during variation in liquid flow-rate, is established by positioning the air-intake tube so that it is capable of being moved vertically.

The liquid to be aerated rises up the outer tube under the effect of a pump or other pressure applicator, travelling between the outer tube and the inner aeration tube mounted coaxially. The water rises to a level which ensures that it flows over through the slit formed by the cone and the conical attachments of the two parts. A funnel of water is formed with a known degree of conicity-corresponding to the conicity of the slit-like water-overflow. The water takes in air intensively, the volume of which increases as the conicity of the water funnel decreases, with simultaneous increase in the liquid flow-rate.

Tyutin, V.Ya., Zayats, V.N., Zayats, V.I. et al. Bul. 6/15.2.79. 22.8.77 as 522003 (3pp29)

ASAG= ★ D15 80511B/44 ★SU-647-296
Liquid fertiliser - based on waste water of fodder yeast cultivation using alkane(s) as nutrient
AS AGROCHEM SOIL (ASBI=) 30.12.75-SU-199953
C04 H04 (D16) :(18.02.79) C05f-07

Liquid agricultural fertiliser comprises the waste water from feed yeast biomass prod. plant utilising petroleum source n-alkanes as nutrients.

The above fertiliser can be used all year round. It contains no toxic materials or parasites and includes growth stimulating components with high vitamin, aminoacid, nucleotide etc. content. The alkanes which may be present can be easily decomposed by soil bacteria improving the plant nutrient value of the fertiliser.

The use of above waste waters as fertiliser improves the crop yield and reduces the cost of biomass prodn. as effluent purificn. is not required.

Builov, V.V., Eroshin, V.K., Lichko, R.P. et al. Bul. 6/15.2.79. 30.12.75 as 199953 (7pp938)

ASCH= ★ D15 80525B/44 ★SU-647-310
Soluble polymers and copolymers of 1-vinyl-1,2,4 triazole prepn. - by radical polymerisation in water or polar organic solvent, used in medicine, hydrometallurgy, petroleum refining, food and paper mfr. etc.
AS CHEM PHYS INST (CHCO=) 30.06.77-SU-501567
A14 B04 F06 (B07 F09) (15.02.79) C08f-126/06 C08f-226/06

Vinyl-1,2,4-triazole (I) is polymerised or copolymerised in soln. in water or a polar organic solvent (e.g. DMF, DMA, tetramethylenesulphone, dimethylsulphoxide, etc.) using a radical initiator (e.g. azoisobutyronitrile). Yields of 70-100% are obtd. in reaction times of a few mins. to 5 hrs.

The prod. with flocculating and complexing properties is sepd. by pptn. with acetone.

Tatarova, L.A., Ermakova, T.A., Lopyrev, V.A. et al Bul. 6/15.2.79. 30.6.77 as 501567 (2pp1360)

MARI= ★ D15 80594B/44 ★SU-647-384
Filter-board for beer clarification - contg. cotton and wood pulp asbestos and polymeric binder to increase strength
MARII BR CELL PAPER 23.06.77-SU-499435
A88 F09 J01 (20.02.79) D21f-11/14 D21h-05

Filter carton esp. for beer clarification contains unmercerized viscose cellulose to increase mechanical strength without impairing filtration properties. The proposed compsn. is (wt.%): unmercerized viscose 55-70; cotton pulp 15-25; chrysotile asbestos 15-20.

Chrysotile asbestos is milled to fibre length 80-85 deci. g. which allows high filtrability. The cotton is milled to 18° Sch.R. pulp fineness. The fibres are bound by 3-5% latex VKhVD-65 (on dry material wt.)

Irtegova, L.F., Baranova, A.K., Kozhanova, Kh-G. et al Bul. 6/15.2.79. 23.6.77 as 499435 (3pp114)

MLCO= ★ D15 80649B/44 ★SU-648-275
Filtering centrifuge for industrial and agricultural effluents - uses hydraulic cyclone as inlet nozzle to filter liquid phase through sediments from thickened suspension
MOLD COLLECT FARMS 03.11.77-SU-540148
J01 P41 (27.02.79) B04b-03

Improved quality of sen. by filtering centrifuge for clarifying effluent water from stock breeding establishments as well as from food, chemical, and other industrial plants, is ensured by reduced carrying of solid particles by the filter liquor. The initial material is fed into the horizontal rotor of the centrifuge through the hydraulic cyclone which separates the liquid phase from the thickned suspension. The latter is fed to the filtering drum in advance of the liquid phase which is therefore filtered through a sediment already precipitated on the drum. The top surface of the sediment removed by a knife falls into the screw conveyor, to be discharged from the centrifuge.

Polonskii, L.S., Shapiro, V.S., Grinberg, Ya. S. Bul.7/ 25.2.79. 3.11.77 as 540148 (2pp135)

SJON/ ★ D15 B/44 ★SW 780
**Receptacle for biologically degradable waste - has toilet
ventilation pipe, air intake openings and sloping floor with seri
obstacles**
SJONNEBRING J 15.03.78 SW-003006
(15.10.79) C05f-03 06

The elongated receptacle has a sloping floor, and one o
ends is shaped like a toilet seat with an openable lid an
ventilation pipe. The receptacle has air intake opening
The sloping floor incorporates a series of transverse o
stacles which temporarily retain liquid as it flows alon
floor. 15.3.78 as 003006 (-pp1407)

ESSO D15 22568T/14 =US RE30
**Water purification - using liquid membrane consisting of emul
with continuous phase contg a surfactant**
EXXON RES & ENG CO 25.08.71-US-174990 (13.04.70-
028094)
*A91 J01 (23.10.79) *BE-773-061 B01d-13 C02b-01/46*

Removal of dissolved species from an aq. soln. compris
contacting the soln. with an emulsion. The emulsion co
sists of an interior phase, surrounded by surfactant co
exterior phase. The extension phase is immiscible wit
the aq. soln. and the exterior phase is permeable to the
dissolved species. The interior phase consists of a rea
-ant capable of converting the species to a non-permeab
species, so that the species permeates the exterior pha
cord is converted to a non-permeable species in the inte
ior phase.

Pref. the exterior phases comprises a sulphonic aci
organophosphoric acid or carboxylic acid and the interio
phase is aq. The dissolved species is pref. CO_2, SO_2,
CH_3COOH, H_2S, phenol, HCN or citric acid.

Process may be operated at any temp. and pressure
which maintains the stability and fluidity of the various
phases. 13.10.78 as 951352 Reissue of 3779907 C.i.p.
3617546, 3637488 (+ 12.5.70 - US - 036686)(7pp393)

NALC ★ D15 80713B/44 ★US 4171-9
**Ampholytic polymers for preventing and removing boiler scale
obtd. by reacting chloroacetic acid with an ammoni
epichlorohydrin copolymer and effective at low levels**
NALCO CHEMICAL CO 26.06.78-US-919533 (18.02.77-U
769991)
A97 P43 (A25) (23.10.79) B08b-03/08

A new water-soluble ampholytic polymer is formed by re
cting 0.5-2.0 moles, pref. 2.0 moles, of chloroacetic ac
with a condensn. polymer formed by reacting epichloroh
drin and ammonia in molar ratios of epichlorohydrin :
ammonia of from 1 : 1 to 1 : 4, pref. 1 : 2.

The polymer may be used to remove and inhibit scale
formation in a boiler used for steam generation at 15-15
psi. The pH of the boiling water is pref. at > 9.0 and th
polymer is present at a pref. conc. of > 0.1 ppm pref.
0.1-1000 ppm. 26.6.78 as 919533 (+ 23.9.77 - US -
836254)(4pp1390)

DOWC ★ D15 80733B/44 ★US 4172-03
**Sepn. of oil from water - by passing through a bed contg. oleophil
and oil imbibing bodies**
DOW CHEMICAL CO 04.11.75-US-628619
A88 J01 (23.10.79) B01d-15

Organic liquids, in amts. up to 1000 ppm, are recovered
from an aq. stream by passing the stream through an organic liq. sorbing bed which comprises a fist body (I) havi
an oleophilic surface and a second body (II), close to the
first of an oleophilic imbibing synthetic resinous crosslinked polymer which swells in, but does not dissolve in
the organic liq. and which imbibes organic liq. accumulating on the surface of the first body (I).

(I) is a ground synthetic resinous foam and (II) is in the
form of beads. Pref. several sorbing beds are used in
series.

Petroleum oil sorption capacity is high, and the problems of prior sorption techniques (such as disposal of oil
satd. straw bales and the fact that activated C beds decrease in efficiency as oil is added) are overcome. 4.11.75
as 628619 (6pp959

NALC ★ D15 80734B/44 ★US 4172-032
Scale and corrosion preventing industrial water treatment compsn. - contg. glassy poly:phosphate and phosphated alkylene oxide poly:ol condensate
NALCO CHEMICAL CO 23.12.77-US-864119 (15.10.76-US-732569)
E11 M14 (23.10.79) C02b-05/04 C23f-11/12

A compsn. for preventing scale and corrosion in industrial cooling water systems comprises (I) a water-soluble condensed glassy phosphate of mol. wt. about 2160 and PO_4 content about 92.4 wt. % and (II) a phosphated adduct of glyceral with 1.5-2.5 moles ethylene oxide, the wt. ratio of (I) : (II) being about 1 : 1.

The compsns. are very effective under conditions of high temp., high Ca content and at pH 8-9, where reversion of polyphosphates is normally rapid. 23. 12. 77 as 864119 (9pp955)

KUST D15 52733B/29 =US 4172-038
Filter for reverse osmosis or ultrafiltration - having cylindrical filter element inside tube with spiral path for concentrate to keep filter surface clear
KUSTERS E 05.01.78-DT-800425
*J01 (23.10.79) *DT2800-425 +B01d-35/22*

A tubular filter operable continuously at constant pressure, e.g. for reverse osmosis or ultrafiltration, has at least one groove in the entrance surface and a cylindrical closed outer sleeve tightly over the filter body to form a forced flow path along the groove.

All the liquid must flow along the groove in which the flow is completely turbulent so that particles separated from filtrate are immediately washed away and remain in suspension or soln. The grooves may be axial, helical or meandering, and there is a pressure housing around filter and sleeve so that concentrate acts on the sleeve outer surface. 31. 1. 78 as 873776 (5pp1358)

IKED- D15 40882Y/23 =US 4172-039
Materials derived from coconuts for absorbing mineral oils - e.g. in oil slicks, are a by-prod. in mfr. of fibres from coconut shells
IKEDA BUSSAN CO 30.10.75-JA-129882 (14.03.75-JA-030832)
*H03 J01 +Q42 (23.10.79) *J52053-788 B01d-39/04*

An oil fence for spillages on the sea comprises absorber collectors each having coir dust impregnated with a hydrophobic-oleophilic substances in the upper part of a container for contact with floating oil which can pass through the dust while water is repelled.

The oil collects in the lower part of the container, from which it can be withdrawn. The containers can float in the sea and are flexibly interconnected. 19. 5. 77 as 798421 (+ 21. 6. 75, 18. 7. 75 - JA - 076379, 088620; 9. 3. 76 - US - 665175)(8pp1358)

ALUM- ★ D15 80738B/44 ★US 4172-040
Sedimentation tank rake - with transverse blades on radial arm articulated via link rods to radial booms to reduce loading
ALUMINIUMIPARI TERV 19.10.78-US-952931
(23.10.79) B01d-21/18

Rake comprises a central vertical rotatable torque tube with a drive, a pair of radial booms cantilevered to the tube, and a radial rake arm lower than the booms, rotating with the tube above the tank bottom, and angularly displaced by 45° in a horizontal plane relative to the booms.

Transverse blades on the arm are pulled over the tank bottom and parallel to it, and an outboard point on each boom is connected with the arm at spaced points. A link rod between arm and tube is hinged to the arm and connected to the tube by a universal joint. The arrangement allows the arm to lift without substantial additional bending and shearing loads. 19. 10. 78 as 952931 (4pp1358)

DEUT ★ D15 80771B/44 ★US 4172-116
Soluble gas and liquid contact exchange process - esp. for deuterium concentration using sea-water and hydrogen sulphide with gas recirculated by flash pressure reduction
DEUTERIUM CORP 13.02.76-US-658060 (22.03.71-US-126498)
E36 J01 K05 (23.10.79) C01b-05/02

In a gas-liquid contact process, using a partially soluble gas, part of the liquid is extracted after passage through a high pressure hot contact zone. The pressure of the extracted liquid is flash-reduced to remove some of the dissolved gas. The gas removed is returned to the process by absorption in initial liquid feed.

The process may be used for hydrogen isotope (denterium) concentration using hydrogen sulphide gas and water. Higher efficiency is achieved at relatively low temps. A distilled liquid by-product is formed free of solubles, e.g. salts in sea-water. 13. 2. 76 as 658060 Div. ex 3984518 (c. f. 79261 X/42)(+ 17. 7. 74 - US - 489449)(8pp1312)

See Also

D13 PT 69240
D18 EP ---5082
D16 GB 1554873
D22 EP ---5103
D16 SU 647339
D25 US 4172208

D16 : FERMENTATION INDUSTRY

STAL D16 12827R/08 =DS 1943-096
Enzyme system for prodn of dextrose from starch
STALEY A E MFG CO 26.08.68-US-755093
*(25.10.79) *BE-737-924 +C12d-13/02 C13k-01/06*

Conversion syrup with a high dextrose content is obtd. from a dilute starch hydrolysate. The starch hydrolysate is saccharified at pH 4.5-6.7 (5.8-6.3) with an enzyme mixt. of glucosidase, which pref. is free from transglucosidase.

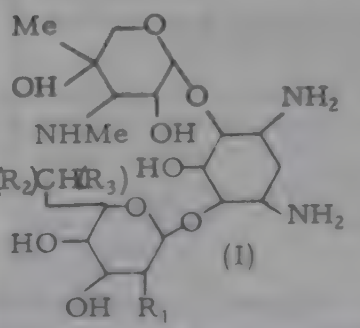
The enzyme mixt. pref. contains 0.05-0.8 units amylo-1,6-glucosidase per unit glucoamylase and pref. also contains α-amylase. 25. 8. 69 as 943096 (10pp068)

DURR/ D16 71970S/45 =DS 2121-383
Culture prepn for soil
DURRELL H (DUR /) 01.05.70-US-033907
*C04 (25.10.79) *BE-766-416 +C12b-03*

Prepn. of medium for improving soil condition comprises lining an open channel in the soil with putrefying materials and introduction of wet decaying leaves so that CO_2 can escape; a thick suspension is formed and a sample, (1 vol) is transferred to a container, mixed with water, (10 vol), and $CaCO_3$ and/or $MgCO_3$; the mixt. is allowed to reach equilibrium and is then filtered; the filtrate is then kept to mature, pref. for 5 days. 30. 4. 71 as 121383 (3pp047)

SCHC D16 81416S/51 =DS 2130-113
Gentamicines b, b1 and x - as antibiotics anti protazoal and anthelmi - agents and compns with gentamicine a
SCHERICO LTD 22.06.70-US-048017
*B03 C02 (25.10.79) *BE-768-796 +A61k-31/71 C07h-15/22*

Gentamycin B, gentamycin B_1 and gentamycin X of formula (I), their nontoxic salts, hydrates and solvates (esp. ethanolates) are new. In (I), R_1 is OH, R_2 is H and R_3 is NH_2, (gentamycin B); or R_1 is OH, R_2 is Me and R_3 is NH_2, (gentamycin B_1); or R_1 is NH_2, R_2 is H, and R_3 is OH, (gentamycin X).



(I)

Prepn. of cpds. (I) from culture media of Micromonospora echinospora or M. purpurae comprises adsorption on a weakly acidic cation exchange resin, elution and extraction into a $MeOH/CHCl_3/$ concd. aq. NH_3 mixt., (1:1:1); the lower phase is chromatographed on silica gel, and the gel is eluted with the above solvent mixt collecting the active fractions.

The prods. are antibiotics with a wide spectrum of activity, esp. as antihelmintics and anti-protozoic agents.

18. 6. 71 as 130113 (12pp047)

HEFA D16 22914U/17 =DS 2149-409

Yeast component-enriched beer - using beer yeast plasmolysed with sugar and fermented after centrifuging from cells

HEFA-FRENON ARZNEIM (HEF -) 04.10.71-DT-149409

*(25.10.79) *DT2149-409 C12c-11/04*

Beer is made using a plasmolysate made by first abstracting a beer yeast after it has been used for beer fermentation. The beer yeast is subjected to plasmolysis with a fermentable sugar and the plasmolysate centrifuged from the yeast cells. The plasmolysate is fermented with fresh beer yeast, pref. in the presence of carbohydrate. There may be addn. up to 0.5% lactic acid before the plasmolysate is used for fermentation.

The beer made has a good yellow colour and taste.
4. 10. 71 as 149409 (3pp068)

BOEF D16 60750W/37 =DS 2559-875

Cholesterol determination procedure - in which bound cholesterol is released using microbial cholinesterase

BOEHRINGER MANNHEIM GMBH 01.03.74-OE-001679

*B04 R16 (25.10.79) *DT2506-712 G01n-31/14 G01n-33/16*

Determn. of total cholesterol or bonded cholesterol comprises liberation of free cholesterol with cholesterolesterase and reaction with cholesteroloxidase, followed by spectrophotometric determn. of the H_2O_2 released. The former enzyme is obtd. from certain Actinomyces, Streptomyces and/or Candida species (excluding C. rugosa and C. cylindracea), and other miscellaneous microorganisms. Cholesteroloxidase is obtd. from certain Norcardia species or Proactinomyces erythropolis.

Reagent for cholesterol determn. comprises cholesteroloxidase, an indicator which reacts with H_2O_2, buffer and surfactant. Pref. reagents contain cholesterolesterase, cholesteroloxidase, catalase, acetylacetone, MeOH, NH_4^+ buffer and surfactant. H_2O_2 is pref. determined with peroxidase, chromogen and buffer, or cholestenone is determined with a substd. hydrazine which forms the hydrazone.
18. 2. 75 as 559875 Div ex 2506712 (5pp047)

RENT D16 66981Y/38 =DS 2624-047

Mass culture of diploid cells for vaccine prodn. etc. - in controlled conditions in single batch multidish vessel

RENTSCHLER ARZNEIMI 28.05.76-DT-624047

*A97 (25.10.79) *BE-854-898 C12k-01/10 C12k-09*

A bulk culture system for diploid cells for the prodn. of vaccines and other cell prods. uses an array of communicating chambers when stack of trays with vents on the top is arranged with the walls vertical. By turning the stack horizontal, the medium, the cell suspension and the nutrient medium are spread over the whole useful area of the trays. During the growth period, the system of chambers is kept in motion by a rocking device. Finally, the stack is returned to the vertical position and the cell prods are extracted.

This magnifies the surface area available for the culture and standardise the operational procedure. The risk of biohazards is reduced, a high degree of sterility is achieved, and the use of plastics such as polystyrene results in a faster growth rate. 28. 5. 76 as 624047 (5pp39)

MCDD D16 81435Y/46 =DS 2715-326

Liquid medium used to identify Citrobacter freundii - by formation of precipitate in 8 to 12 hours

MCDONNELL DOUGLAS CORP 03.05.76-US-682654

*B04 (25.10.79) *DT2715-326 C12k-01/06*

Culture medium forthe selective detection of Citrobacter freundii (fordiagnostic purposes) comprises nutrient contg. palatinose and/or rhamnose, (9-11 g/dm^3), surfactant, (9-11g/dm^3), to inhibit gram positive microorganisms; 2', 4, 4'-trichlorodiphenyl oxide, (14.5-15.5g/dm^3); and brilliant green, (52-55 mg/dm^3). 1. 4. 77 as 715326 (3pp047)

MASI D16 21567A/12 =DS 2749-989

Growing anchor dependent cells in a medium contg. a micro-carrier - having positively charged chemical gps. with exchange activity, e.g. in prodn. of viruses, hormones, interferon etc.

MASSACHUSETTS INST TECH 11.11.76-US-740993

*A96 B04 (25.10.79) *BE 860-721 C12k-09*

Process for propagation of cells anchored to a micro-carrier comprises the use of a cross-linked dextran with
positively charged substituents, such as tertiary or q
nary amine groups, esp. $Et_2NCH_2CH_2$. The process i
tic. applicable to the propagation of diploid human fi
plast cells. 8. 11. 77 as 749989 Div in 2759579 (10pp0

BUHL- ★ D16 79235B/44 ★DT 28

Sterile biological sampling appliance - with program con
metering device in sterile chamber

FA BUHLER E 15.04.78-DT-816484

(25.10.79) C12b-01

An appliance to take sterile samples from a biologica
reactor (fermenter) has a program-controlled meter
device inside the sterile sample chamber directly ab
test tube carrier. The closed circuit from the biorea
includes an external cooler and a pump.

The continuous circulation saves the necessity of
-ing out the line before each sample is taken. The sam
remain sterile even after the appliance has been used
long periods. 15. 4. 78 as 816484 (13pp39)

ESSO ★ D16 79327B/44 ★DT 29

Lower alpha- olefin, esp. propylene or diene epoxidation
contact with oxygen and methylotrophic microorganism or en
derivs. (BE 12.10.78)

EXXON RES & ENG CO 16.03.79-US-021227 (14.04.7
896467)

E13 (25.10.79) C07d-301/06 C07d-303/04 C12d-13/02

A 2-4C n-alkene or diene, e.g. C_2H_4, butene-1, buta
or esp. C_3H_6, is epoxidised by contacting with O_2 in t
presence of the particle fraction of microorganisms
enzyme prepns. derived therefrom, whter the micro-
anisms were cultivated in a nutrient medium contg. C
or Me_2O and O_2.

The microorganisms may be obligate or facultative
methylotrophs, esp. of the Methylosinus, Methylocys
Methylomonas, Methylobacter, Methylococcus or Me
lobacterium species. Epoxidation may take place batc
wise or continuously, using an immobilised enzyme p
pref. derived from an enzyme extract of the microorg
ism. 12. 4. 79 as 915108 (45pp200)

MITK ★ D16 79334B/44 ★DT 291

Pyruvic acid salts prodn. - by oxidising lactic acid salts with ox
or air in presence of palladium or platinum catalyst (NL 10.10.7

MITSUI TOATSU CHEM INC 19.01.79-JA-003992 (17.04.7
044267)

B05 E17 (25.10.79) C07c-59/34

In the prodn. of salts of pyruvic acid by oxidn. of salt
of lactic acid, a salt of lactic acid is oxidised with a C
contg. gas in an aq. solvent in the presence of a catal
comprising (a) Pt and/or Pd and (b) Pb, Sn, Te, In, a
or Bi and/or a cpd. of these.

Pyruvic acid salts are useful as raw materials for
fermentative process for the prodn. of L-tryptophan.
are also useful as raw materials for the fermentative
dn. of L-cysteine and L-DOPA. Component (b) of the
catalyst increases the catalytic activity of component
to that the pyruvate salts are produced in high yields.
14. 4. 79 as 915395 (+31. 8. 78 - JA - 105619) (21pp280)

HENK ★ D16 79388B/44 ★EP —

17-C-Steroid alpha-propionic acid derivs. prodn. - by micr
degradation of 17-C side chain esp. of sterol, using new m
microorganism strains

HENKEL KG AUF AKTIEN 17.04.78-OE-002662

B01 (31.10.79) C07j-09 C12k-01/02 C12k-03

D/S: E(BE, DT, FR, GB, IT, NL, SW).

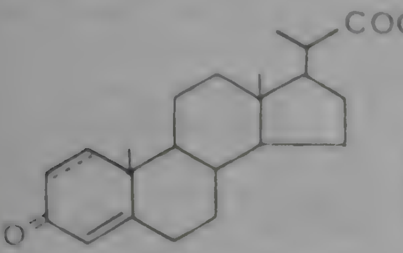
(A) Prodn. of 17-C-steroid α-propionic acid cpds. (I)
microbial degradation of 17-C-side-chain steroid sub-
strates (II) comprises aerobic culture in an aq. nutrie
medium of a microorganism-defect block mutant whic
can provide (I) even in the absence of steroid ring deg
ation inhibitors and/or growth inhibitors.

(B) Novel mutant strains for the process are prepd
(a) culturing a wild strain which on aerobic growth ca
utilise a sterol as sole carbon source and preferentia
degrades the 17-C sidechain rather than the ring, (b)
jecting the strain to conventional mutation treatment,
culturing the mutant population on a separation mediu
which the (I)-forming mutants do not (or almost do no
grow, when the undesired accompanying mutant strai

grow and are killed during their growth and (d) culturing the remaining mutant strains on (II) and isolating the strain with optimal prodn. of (I).

(C) The wild strain Chol. spec. 73 (CBS 660.77, ATCC 31384) is new.

(I), esp. 3-oxo-pregn-4-ene-20-carboxylic acid (Ia) and 3-oxo-pregna-1,4-diene-20-carboxylic acid (Ib),



(Ia: 1(2) satd.)
(Ib: 1(2) unsatd.)

are intermediates for steroid hormones of the pregnane series, e.g. prednisolone derivs. The process allows the prodn. of (I) in high yield (in some cases 70-80%) from readily available sterols of natural and/or plant origin, which were previously undesirable waste prods.
5.4.79 as 101036 (54pp941)
(G) ISR: US4029549; 3 Journal References.

MERI ★ D16 79440B/44 ★EP ---5-030
Low calcium xanthan gums - forming uniform, smooth flow aq. compsn. and oil water emulsions
MERCK & CO INC 13.04.78-US-895907
A11 H01 (D13 D21) (31.10.79) A23l-01/04 A61k-07/16 C08b-37 C09k-07/02 C12d-13/04
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Xanthan gum (I) having $\not>$ about 1.6% of its CO_2H grps. bound to Ca ions is new. Also claimed are (a) a dry mix of a foodstuff and (I) and (b) a toothpaste comprising glycerine, water, an abrasive and (I).

Aq. solns. of (I), or oil/H_2O emulsions contg. (I) have smooth, uniform flow, and are esp. useful in the prepn. of pourable and spoonable salad dressings. (I) are also useful in oil well drilling fluids, in reconstituted dry mixes (drinks, soups, etc.; to improve solubility), and in high sugar-solids systems (toothpastes, hand creams etc.; to improve texture and flow props.).
11.4.79 as 300602 (39pp478).
(E) ISR: None given.

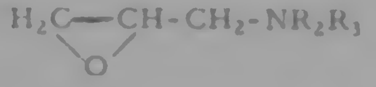
PFIZ D16 40248A/22 =GB 1554-838
Animal growth promoting polypeptide antibiotic 46192 - prepd. by cultivation of Streptosporangium roseum microorganism
PFIZER INC 01.06.77-US-802499
*B04 (31.10.79) *US4083-963 A61k-37 C07g-07 C07g-11*
Antibiotic cpd. 46192 (I) is produced by cultivating Streptosporangium roseum subsp. incarnatum Routien ATCC 31265 or Streptosporangium roseum subsp. incarnatum Routient ATCC 31266 under submerged aerobic conditions in an aq. nutrient medium comprising an assimilable source of C and N.

In the crystalline form, (I) has a m. pt. of 210-216°C, is soluble in $CHCl_3$, ethyl acetate, methyl isobutyl ketone, and insol. in n-heptane and its isomers; has UV absorption in ethanol at 238 and 300-305 nm (sh) with $E^{1\%}_{1cm}$ of 350 and 80 esp.; contains 48.49% C; 5.05% H, 13.03% N, 10.88% S and 22.55% O (by difference); has optical rotation $[\alpha]_D$ of -129° at 25°C at 1% concn. in $CHCl_3$; and an IR spectrum in KBr with absorptions at 2.97, 5.77, 6.02, 6.30, 6.6-6.75, 7.25, 8.25, 9.75 and 11.20 μ.

It is esp. used at 5-20 ppm in animal feeds to improve feed utilisation by ruminants and monogastric animals.
9.5.78 as 018484 (7pp997)

SUMO D16 67330A/38 =GB 1554-842
Antithrombotic and antitumour-potentiator urokinase purificn. - by adsorption of impurities on ionic pullulan gel
SUMITOMO CHEMICAL KK 10.03.77-JA-026726
*B04 (31.10.79) *DT2809-330 C07g-07/02*
Urokinase (I) is purified by (a) contacting an aq. soln. of impure (I) with an ionic pollulan gel at pH 6.0-9.0; and (b) sepg. the soln. from the gel.

Pref. the gel has a capacity to take up water of 1.00-20 g per g or dry gel and an ion exchange capacity of 1-4 meq/g. Pref. the gel is prepd. by reacting a hydrophilic pullulan gel with a cpd. of formula Hal-R_1-NR_2R_3 (II) or (III) in the presence of an alkali and a liq., in the case of the reaction with a cpds. of formula (II), the amt. of alkali used being at least sufficient to neutralise hydrogen halide liberated during the reaction. In the formulae, Hal is halo; R_1 is 1-5C alkylene; and R_2 and R_3 are each H, 1-4C alkyl, phenyl or 1-4C alkyl substd. phenyl.



$$H_2C\!-\!CH\text{-}CH_2\text{-}NR_2R_3 \quad \text{(O bridging } H_2C \text{ and } CH)$$

(III)

(I) is used in the treatment of thrombosis, and partic. in the treatment of tumour in combination with antitumour agents. 9.3.78 as 009427 (5pp936)

MITP D16 82126A/46 =GB 1554-849
Polysaccharide prepn. from Pseudomonas polysaccharogenes - useful for reducing blood levels of cholesterol
MITSUBISHI PETROCH KK 08.11.77-JA-133104 (11.05.77-JA-053245)
*B04 (31.10.79) *BE-866-934 A61k-35/74 C12d-13/04*
New polysaccharide (I) has specified physiochemical properties (a) optical rotation $[\alpha]^{20}_D$ = +48.4° $\pm$3.3° (0.1 w/v% aq. soln.); (b) Mw: 2.0×10^5-2.0×10^6; (c) elemental analysis: C, 37.7% $\pm$3.0%; H, 5.8%$\pm$0.5%; (d) colour reaction: positive in anthrone reaction and phenol-sulphuric acid reaction; (e) determination of basicity, acidity or neutrality; acidic polysaccharide; (f) IR absorption spectrum: characteristic absorption bands (cm^{-1}) at 3450 (S), 2940 (M), 1620 (M), 1400 (M), 1040 (S) and 890 (W).

(I) is soluble in water, 1 N. HCl, 1 N H_2SO_4 and 1 N aq. NH_3. It is insoluble in ethanol, ether, acetone, chloroform and DMSO. (I) has viscosity 1000-3000 cps measured on its 1.0 w/v% aq. soln. at 20°C by means of a BL-type viscometer (mfd. by Tokyo Keiki KK Japan). Sugar units-spots of glucose and mannose on paper chromatography after hydrolysis and sugar unit ratio of glucose and mannose of 3-2 by gas chromatography. (I) is white and amorphous as such and colourless in its aq. soln. 5.5.78 as 017899 (13pp936)

KNEE/ D16 20287Y/12 =GB 1554-873
Continuous composting of organic ww waste - by automatic control of fermentation temperature and humidity of product and control of carbon dioxide or oxygen in waste gases
KNEER F X 15.09.75-DT-541070
*C04 (D15) (31.10.79) *DT2541-070 C05f-07*
Continuous composting of organic waste and/or sewage sludge (I) is effected by passing (I) from top to bottom of a closed ventilating reactor, with moist air flowing countercurrently. The air is fed in by a fan at the bottom of the reactor, passed through (I) contacting its entire horizontal cross section, going up the reactor, then withdrawn from the top by a second fan. The O_2 or CO_2 concn. in the exhaust gas is measured and based on the comparison of the result with a desired value, the air flow rate is regulated.

The moisture content of (I) is measured at $\geqslant$ 2 points between the top and bottom of the reactor. The results are compared with desired values and the amt. of finely divided water added to the air supplied to the reactor is adjusted accordingly. The temp. of the air supplied is 30-50°C.
15.9.76 as 038169 (6pp945)

KYOW ★ D16 79569B/44 ★GB 2019-388
Antibiotic DC-11 from Micromonospora sp. NRRL 11289 - useful as antibacterial and antitumour agents
KYOWA HAKKO KOGYO 20.04.78-JA-045916
B04 (31.10.79) A61k-35/66 C12d-09/14
Antibiotic DC-11 (I) is new. It has m. pt. 225-8°C (dec.); it analyses for H 6.9, C 59.0 and N 2.0%; it has $[\alpha]^{20}_D$ -0.52° (C 2 in acetone); and it has characteristic i.r., u.v and PMR and CMR spectra.

(I) is obtd. by cultivation of micromonospora sp. NRRL 11289, which is a new strain isolated from a Japanese soil sample. The (I) is isolated from a fermentation medium by using ion-exchange resins. (I) has L-digitoxose and L-amicetose in its structure.

(I) is an antibacterial, useful as a therapeutic agent and and sanitisers, and an antitumour agent. Dose is 0.1-0.5 mg/kg daily parenterally. It has LD_{50} of 54 mg/kg intraperitoneally in mice. 20.4.79 as 013750 (8pp1248)

MERE ★ D16 79580B/44 ★GB 2019-434

Testing for microorganisms on surfaces - by contacting with a porous, adhesive sheet and placing sheet on culture medium

MERCK PATENT GMBH 21.04.78-DT-817503

(31.10.79) C12k-01/10

Testing for microorganisms present on a surface comprises applying a porous, flexible sheet material coated on ≥ 1 side with an adhesive to the surface, so that the adhesive coating is in contact with it; stripping the material from the surface; placing it on the surface of a microorganism culture medium with the sheet material surface which is not contacted with the test surface in contact with the medium; and incubating the assembly. The transfer sheet is dry and therefore has better stability than conventionally used materials and requires no special storage conditions. The method can be used for qualitative or quantitative determn. 19.4.79 as 013551 (3pp558)

MEIJ ★ D16 79828B/44 ★J5 4122-202

Antibiotic SF-2033 - prepd. by culturing microorganism belonging to Streptosporangium, effective against Gram-positive bacteria and mycoplasma

MEIJI SEIKA KAISHA 14.03.78-JA-028292

B04 (21.09.79) A61k-35/74 C07g-11 C12d-09/14

Antibiotic SF-2033 is a white powder of m.pt. 147-148°C $[\alpha]_D^{20}$ = -929.2°; elementary analysis C=50.04, H=6.07, Cl=10.33, 0=33.56 (%); and mol. wt. 1200. Characteristic IR and UV spectra are given. It is hardly soluble in H_2O, hexane, ether and readily soluble in $CHCl_3$, DMF, EtOAc, MeOH, EtOH, acetone, alkaline.water. It gives a positive reaction with $KMnO_4$, 3% vanilin-H_2SO_4 and is very unstable in acid.

Antibiotic SF-2033 is prepd. by culturing a microorganism belonging to Streptosporangium (esp. St. vulgare SF-2033 strain) and recovering Sf-2033 from the resultant culture. 14.3.78. as 028292 (7pp38)

EBIO- ★ D16 79964B/44 ★J5 4122-716

Phlogistic substance for testing antiphlogistic drugs - comprises dissolved substance from fungus cell wall obtd. by removing water-soluble fraction from self-digested beer yeast

EBIOS YAKUHIN KOGYO 15.03.78-JA-029412

B04 (22.09.79) A61k-35/72 C12d-07

Plogistic substance comprises dissolved substance from fungus cell wall obtd. by removing water soluble extract fraction from self-digestive substance of beer yeast.

The substance has phlogenic action such as pyrogenic oedema-forming action and is useful for evaluating antiphlogistic drug on pyretolysis action and oedema-inhibiting action.

In an example, bitter taste-eliminating-cleaning agent is added to beer yeast such as Saccharomyces carlsbergensis and hops, followed by washing with water repeatedly to purify. The resultant aq. suspension of yeast was subjected to self-digestion at suitable temp. e.g. 45-55°C usually for 18-24 hours, in some cases for 2-3 dyas. Then, resultant self-digested substance was subjected to centrifugal separation or filtration to remove water-soluble extraction fraction, resultant fungi body residue was treated with kitalase to dissolve of cell wall of fungi body. Complete dissolving is not necessary but completion by dissolved substance is preferable. The prod. was spray-dried and the resulting powder was suspended in water. 15.3.78. as 029412 (5pp69)

MITU ★ D16 79983B/44 ★J5 4122-791

Extracting glucose-isomerase from microbial body - using high pressure homogenising process

MITSUBISHI CHEM IND KK 15.03.78-JA-029416

(22.09.79) C07g-07/02 C12d-13/10

The method is characterised by releasing glucoseisomerase from the glucoseisomerase-producing microbe belonging to Actinoplanes by treating the microbial body in a high pressure homogenising process.

Actinoplanes missouriensis NRRL B 3342 contains highly active glucoseisomerase but the glucoseisomerase cannot be extracted efficiently by conventional methods such as autolysis method, lysozyme method, etc. The high pressure homogenising process can be practiced as follows. (1) the microbial slurry is press-fed into a homogeniser under a pressure of 10-800 (350-750)kg/cm^2 and the slurry is introduced into the low pressure zone (pref. into the normal pressure zone) suddenly from th high pressure zone. (2) In the low pressure zone the microbial body is collided against a collision ring. The homogenising process is usually repeated 1-10 (1-4) times and ca. 90% of glucoseisomerase can be extracte The method can be adapted for microbes such as Actinoplanes philippinensis, A. missouriensis and A. armen cus. 15.3.78. as 029416 (7pp5)

TANA ★ D16 79984B/44 ★J5 4122

Glutathione prodn. - by treating L-glutamic acid, L-cysteine glycine with glutathione synthetase-contg. material

TANABE SEIYAKU KK 10.03.78-JA-028008

A96 B05 (22.09.79) C12d-13

In the prodn. of glutathione by treating L-glutamic aci L-cysteine and glycine with glutathione-synthetase-con substance, the reaction is carried out in the presence acetatequinase-contg. substance, high polymer-solubl carrier-adenosine-5'-triphosphate bonded substance (I and acetylphosphoric acid (II).

Pref. (I) is a bonded substance of high polymer-solu carrier with adenosine-5'-triphosphate via a covalent Pref. (II) is acetylphosphoric acid contained in glutathi synthetase-contg. substance and/or acetatequinase-con substance.

Glutathione can be produced continuously by ferment using the above method. It is useful for treating hepati diseases or as an antidote. 10.3.78 as 028008 (8pp69)

KYOW ★ D16 79985B/44 ★J5 4122-

Fermentative prodn. of L-glutamic acid - using lysozyme-sensit strains of Corynebacterium or Brevibacterium which are unaffec by high biotin conc.

KYOWA HAKKO KOGYO KK 14.03.78-JA-028821

B05 E16 (22.09.79) C12d-13/06

The method is to prepare L-glutamic acid by culturing L-glutamic acid-prodcible bacteria belonging to Corynebacterium or Brevibacterium in a culture medium and recovering L-glutamic acid accumulated in the culture medium, improvement comprises using a lysozyme-sensitive bacterial strain, in which L-glutamic acid production is not suppressed by excessive biotin present in the culture medium.

Corynebacterium glutamicum KY9703 (FERM-P 4412, NRRL 11271), C. glutamicum KY9705 (FERM-P 4413, NRRL 11272) and Brevibacterium flavum KY9733 (FERM-P 4414, NRRL 11273) can be used. Those strain are the varieties derived from the parent strains of Corynebacterium glutamicum ATCC 13032 and Brevibacterium flavum ATCC 14067. The culture is affected aerobically at 24-37°C (28-33°C) at pH 6-9 for 1-3 day

L-glutamic acid can be prepared advantageously with high yield without suppression by biotin even in a culture medium containing large amount of biotin. Thus inexpensive materials contg. large amount of biotin such as molasses, starch hydrolysate, etc. can be used as the culture medium. 14.3.78. as 028821 (6pp5)

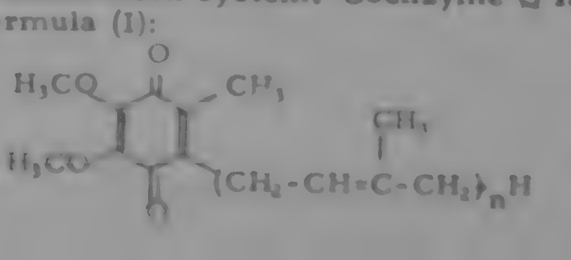
ASAH ★ D16 79986B/44 ★J5 4122-7

Coenzyme Q10 prodn. e.g. for treating cardiac insufficiency - culturing microbes of Brettanomyces genus

ASAHI CHEMICAL IND KK 15.03.78-JA-028603

B05 (22.09.79) C12d-03/02 C12d-13/10

Prodn. of coenzyme Q_{10} comprises culturing microbes of Brettanomyces genus having coenzyme Q_{10}-producing power in nutrient culture medium and taking out coenzyme Q_{10} from resultant fungi body. Coenzyme Q_{10} is distributed widely in animal and vegetable kingdom and plays important roll as in vivo coenzyme in electron transmission system. Coenzyme Q is quinone deriv. of formula (I):



(I)

Coenzyme Q_{10} is a coenzyme Q where n = 10 i.e. number of isoprenoid gps. in side chain is 10. Coenzyme Q_{10} is a useful substance having excellent pharmacological action such as abatement of cardiac insufficiency. As example of fungi of Brettanomyces genus in Brettanomyces anomalus IFO 0642, Brettanomyces bruxellensis IFO 0677 or Brettanomyces petrophilum FERM P-433 etc. 15.3.78. as 028603 (3pp69)

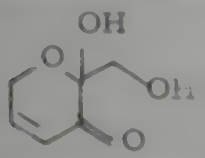
SANY ★ D16 79987B/44 ★J5 4122-796

Antibiotic 2-hydroxymethyl-2-hydroxy-2H-pyran-3- 6H)-one - obtd. by culturing melanospora or microthecium genus water-soluble culture medium aerobically

SANKYO KK 16.03.78-JA-030381

B03 (22.09 79) C07d-309/16 C12d-13

Microthecin of formula (I) is new. Prodn. of Microthecin comprises culturing Microthecin-producing fungi of Melanospora genus or Microthecium genus in water soluble culture medium under aerobic conditions and taking out Microthecin from the cultured mixt. Microthecin is 2-(hydroxymethyl)-2-hydroxy-2H-pyran-3(6H)-one



(I)

(I) has antibiotic action and slight blood platelet agglomeration-inhibiting action. Partic. effective fungi strains are e.g. Melanospora ornata SANK 23077, Microthecium compressum SANK 46472, Microthecium zobelii SANK 14776 . 16.3.78. as 030381 (6pp69)

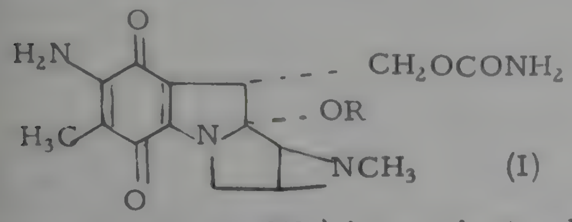
KYOW ★ D16 79988B/44 ★J5 4122-797

7-De-methoxy-7-amino-mitomycin B prodn. - by culturing a Streptomyces type organism, useful as antibiotics with antitumour activity

KYOWA HAKKO KOGYO KK 16.03.78-JA-029238

B02 (22.09.79) C12d-09/14

Prodn. of 7-demethoxy-7-aminomitomycin B and its relatives by fermentation comprises culturing microbe of Streptomyces genus capable of producing antibiotic 7-demethoxy-7-amino-mitomycin B of formula (I):



(I)

(where R is H or CH_3) in nutrient culture medium to yield and accumulate 7-demethoxy-7-aminomitomycin B and its relatives in culture liquor and taking out 7-demethoxy-7-aminomitomycin B.

Mitomycins are a gp. of antibiotics having antitumour action. 16.3.78. as 029238 (12pp69)

SUGI/ ★ D16 80013B/44 ★J5 4123-094

Quantitative assay of lactic acid bacteria - by extracting ATP with boiling water and determining the extracted ATP by luciferin-luciferase reaction

SUGIURA M 17.03.78-JA-029871

J04 R16 (25.09.79) G01n-31/14 G01n-33/04

A method for quantitative assay of lactic acid bacteria comprises treating the tested bacteria with boiling water (or perchloric acid) to extract ATP (adenosine triphosphate) followed by determining the extracted ATP by means of luciferin/luciferase reaction, wherein the lactic acid bacteria to be tested is incubated in buffer soln. (especially buffer soln. of pH 7-9) contg. a culture medium for the bacterial (e.g., a composition contg. 2-5 pts. of glucose, 1-3 pts. of peptone, 0.5-3 pts. of yeast extract, 0.01-0.1 pt. of magnesium salt and 0.1-0.5 pt. of calcium carbonate) and hexokinase, to enrich the intracellular ATP.

The method is used for rapid assay of lactic acid bacteria. The incubation in the presence of hexokinase converts ATP outside the bacteria cells into ADP inert to the luciferin/luciferase mixt., to exclude the interference caused by the extracellular ATP.

Specifically, the bacteria, culture medium and hexokinase are mixed with the buffer soln. (pref. Mg^{++}-contg. soln.) and the mixt. is incubated for 1-5 hours at 37°C. The hexokinase is deactivated by boiling for 2-10 minutes, etc., and the intracellular ATP extd. by this treatment is then determined by reaction with luciferin/luciferase mixt. in the presence of Mg^{++} ion and measuring the intensity of the resulting luminescence. 17.3.78. as 029871 (9pp173)

SHIN- ★ D16 80014B/44 ★J5 4123-095

Colorimetric determn. of cholesterol levels in living tissue - by oxidising and reacting obtd. hydrogen peroxide with 4-amino:antipyrine and phenol in peroxidase, giving a red quinone

SHINOTEST KENKYUSHO 17 03 78-JA-029803

B01 J04 R16 (25.09.79) G01n-33/16

The method comprises oxidising cholesterol, by the catalytic action of cholesterol oxidase, into cholestenone, and reacting H_2O_2 formed by the oxidn., with 4-aminoantipyrine and phenol in the presence of peroxidase, to form a red quinone which is then colorimetrically determined. In the improvement the analysis is carried out in the presence of cholesterol-esterase-free lipase to remove any turbidity; and alkali salt(s) is/are added to the system to accelerate development of the red colour.

The method is used for rapid determination of cholesterol content in living tissue, e.g. blood serum. Blanc test is unnecessary, and improved accuracy is obtd.

In an example, the cholesterol-determining reagent is prepd. by dissolving, in 100 cc purified water, 3333 U peroxidase , 16.7 U cholesterol oxidase, 33.3U lipase, 32.25 mg (0.75 mM) sodium cholate, 20.33 mg (0.33 mM) 4-amino-antipyrine, 94 mg phenol, 100 mg surfactant (Triton X-100), 2.638 g (0.45 M) NaCl, 370 mg NaH_2PO_4 and 1.3 g Na_2HPO_4. 17.3.78. as 029803 (3pp173)

SEGK ★ D16 80226B/44 ★J7 9031-075

Insolubilised glucoamylase prodn. for starch glucose conversion - by adsorbing on anion-exchange materials with di:ethyl aminoethyl or quat. aminoethyl sites, or certain substd. cellulose derivs.

SEIKAGAKU KK 09.10.69-JA-080297

A91 (D17) (04.10.79) C07g-07/02 C12d-13/10

Method comprises adsorbing glucoamylase on DEAE Cephadex (RTM; I), QAE Cephadex (RTM; II), diethylamino-ethyl cellulose, guanidoethyl cellulose or aminoethyl cellulose. (I) and (II) are anion-exchange materials having diethylaminoethyl and quat. aminoethyl group as ion-exchange site, respectively.

Used for converting starch into glucose. The anion-exchange material specified above effectively fix and insolubilise glucoamylase without affecting activity of the enzyme

The glucoamylase is produced by bacteria belonging to Aspergillus. The adsorption is carried out by immersing the anion-exchange material in acetic acid buffer soln. of pH of 3.6 to 6.0 until swelling equilibrium is reached, adding the enzyme dissolved in the same buffer soln. and after the enzyme is completely adsorbed, washing the anion-exchange material with the buffer soln. 9.10.69 as 080297 C12d-13/10; C07g-7/02 (4.10.79) SEIKAGAKU KK (4pp83)

AJIN D16 15542R/10 =J7 9031-076

Preparation of yeast cells and fermentation products - by aerobic fermentation using methanol as principle

AJINOMOTO KK 15.04.68-JA-024762 (00.00.73-JA-100925)

*C03 (04.10.79) *FR2006-235 C12c-11/08 C12d-13/06 +C12b-01 C12b-03/12*

The method comprises culturing yeast belonging to Hansenula in a medium contg. methanol as main carbon source. Bacteria body of excellent flavour is obtd. in high yield, together with glutamic acid, threonine, alanine and citric acid. Used for food, food additive, etc.

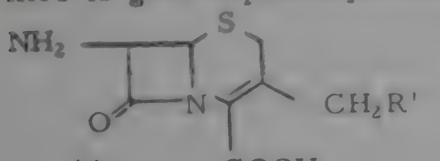
The bacteria used is e.g. Hansenula wickerhamii, etc. Typical culture medium contains 1.5% methanol, 0.5% NH_4NO_3, 0.5% $(NH_4)_2HPO_4$, 0.2% KH_2PO_4, 0.1% $MgSO_4 \cdot 7H_2O$, 5 ppm Fe^{++}, 5ppm Mn^{++}, 5 ppm Zn^{++} and 0.02% corn steep liquor. The culture is carried out at 25-40°C and pH of 5-6.5, under aeration for a few days. Bacteria body is isolated by centrifuge, washed with water and dried. 15.4.68 as 100925/73, Div. ex. 24762/68 C12b-1/00; 3/12; C12c-11/08: C12d-13/06 (4.10.79) AJINOMOTO KK (2pp83)

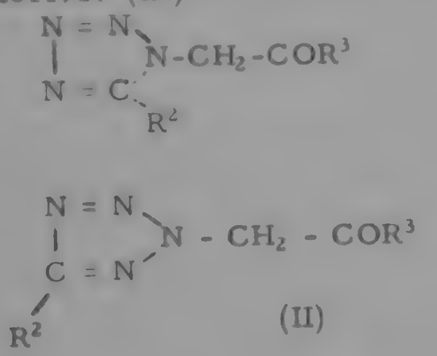
TAKE D16 32648U/23 =J7 9031-077
Cephalosporin c prepn - by fermentation of novel cephalosporium polyaleurum strains
TAKEDA CHEMICAL IND KK 15.11.71-JA-091390
*B02 C02 (04.10.79) *NL7215-283 C12d-09/04*

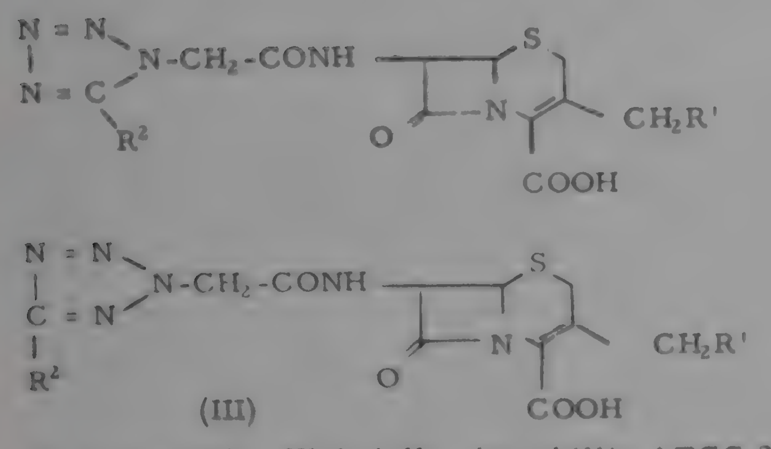
Cephalosporin C is obtained by incubating Cephalosporium polyaleurum 199 or Y-505 (ATCC 20359 and 20360 resp.) in a suitable medium of pH 3-10 (pref. 5-8), for 10-360 (pref. 48-240) hrs., at 15-37 (20-32)°C. The broth is filtered, washed with a solvent, e.g. BuOAc to extract helvolinic acid which is also produced and then purified by alternate charcoal and ion exchange chromatography, to eliminate the small ($\leqslant$ 10% w/w) quantity of penicillin N which is likewise produced. 15. 11. 71 as 091390 C12d-9/04 (4. 10. 79) TAKEDA CHEMICAL INDS LTD. (4pp) (J48080786)

KYOW D16 24984W/15 =J7 9031-078
Cephalosporin derivs prepn by fermentation reaction - of 7-amino cephem cpds with tetrazolyl acetic acid derivs
KYOWA HAKKO KOGYO C 08.05.73-JA-050305
*B02 (04.10.79) *J49134-893 +C12d-09/04*

7-Amino cephem cpds. (I, R'=H, OH, AcO, pyridyl, 5-methyl-1, 3, 4-thiadiazol-2-yl-thio) were reacted with tetrazolyl acetic acid derivs. (II; R^2 = H, alkyl, R^3 = any radical giving CO-NH bonds with (I)) by using bacterial enzymes to give cephalosporin derivs. (III):


(I)


(II)

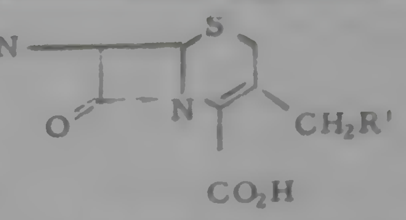

(III)

In an example, Klebsiella citrophillia ATCC 21285 was cultured with shaking on 10 ml. polypeptone-yeast ext. medium (pH 7.0) at 30° for 24 hrs., and cells were re-suspended in 1 ml phosphate buffer (pH 6.0). To this was added 1 ml. 10 mg/ml 7-amino-3-(1-pyridylmethyl)-3-cephem-4-carboxylic acid betaine and 1 ml 25mg/ml a-(1H)-tetrazolyl-acetic acid methyl ester, and the mixt. was incubated for 5 hrs. at 37° to give 3.7 mg/ml 7-(a-(1H)-tetrazolyl-acetamide)-3-(1-pyridylmethyl)-3-cephem-4-carboxylic acid. 8. 5. 73 as 050305 C12d-9/04 (4.10.79) KYOWA HAKKO KOGYO CO. (5pp) (J49134893)

BANY D16 42181Y/24 =J7 9031-079
Cephalosporins prodn. - from (4)-hydroxy phenyl-glycine and a (7)-amino cephem in presence of enzyme
BANYU PHARM CO LTD 24.01.74-JA-009738
*B02 (04.10.79) *J50105-886 +C07d-501/32 C12d-09/04*

4-Hydroxyphenylglycine (I) or its functional deriv. was treated with 7-aminocephem (II) (where R' = 1, 2, 3-triazol-4-ylthiomethyl and R=H) in the presence of enzymes from Azotobacter or Thiobacillus to give cephalosporins (III) (where R = 4-$HOC_6H_4CH(NH_2)CO$).

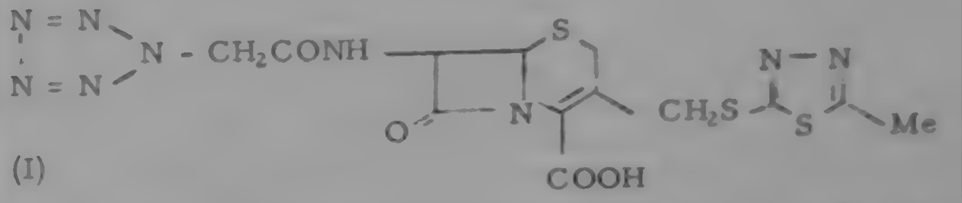
In an example, Azotobacter No. 5686 was added to a soln. contg. 3.5 u mole/m each of n-(I) Me ester-HCl and (II) in phosphate buffer (pH 6) and the mixt. stirre 1 hr. at 37° to give (III). Thiobacillus No. 1665 was also used.


(II)

24. 1. 74 as 009738 C12d-9/04; C07d-501/32 (4. 10. 79) BANYU PHARM CO. LTD. (6pp) (J50105886)

TOXN D16 84041W/51 =J7 9031-0
Cephazoline prepn. - using enzymic prepn. obtd. by culturi Bacillus megaterium B-400 strain
TOYO JOZO KK 25.02.74-JA-022580
*B02 (04.10.79) *J50116-687 +C12d-09/04*

Cephazoline of formula (I):


(I)

was produced from 7-amino-3-(5-methyl-1, 3, 4-thiadiaz 2-il)thiomethyl-3-cephem-4-carboxylic acid (II) and 1H-tetrazole-1-acetic acid ester (III) catalysed by prepn. obt by culturing Bacillus megaterium B-400 (FERM-P 748); In an example, B-400 (~ 100 ml), was treated with 1g celite and stirred for ~ 30 mins. The celite was washe with 0.1M phosphate buffer (pH 7.5) and treated with 0.5 (II) 2.5, Me-(III) 2.5, and 0.1M phosphate buffer 7.5 ml. The mixt. was reacted at 37° for 30 mins. to give (I) (74 yield). 25.2.74 as 022580 C12d-9/04 (4. 10. 79) TOYO BREWING KK (6pp) (J50116687)

AGEN ★ D16 80246B/44 ★J7 9031-39
Detection of phenol derivs. e.g. thymol and vanillin - by contactin with laccase of Basidiomycetes, prepd. by cultivating Coriolu versicolor: different phenols developing different colours
AGENCY OF IND SCI TECH 19.09.67-JA-060103
B04 E14 J04 R16 (06.10.79) C12d-13/10 C12k-01 G01n-31/14

Phenol derivs. selected from o-chlorophenol, thymol, coumaric acid, pyrocatechuic acid, 3, 4-dihydroxyphenyl-alanin, guaiacol, eugenol, vanillin, adrenalin, acetovanillone, tiron, ferulic acid, caffeic acid, umbellic acid, valinic acid, hydroquinone monomethyl ether, chlorohydr quinone, 2, 5-dimethoxy (ethoxy)anilin, orcinol, a-resorcylic acid, pyrogallic acid, 2, 6-dimethoxyphenol, and p-xylidine is contacted with Laccase of Bacidiomycetes microorganism, which is prepd. by cultivation of Coriolu versicolor, whereby the phenol deriv. is coloured. By this way, the phenol deriv. can be detected.

In an example, Coriolus versicolor FERM-P No. 204 is cultivated in a culture medium under aerobic condition for about 4 days, and the resulting enzyme is recovered in pure form by means of concentration, acetone separation, ammonium sulphate separation, dialysis and the lik The colour developed by the enzyme is different dependin upon the kind of the phenol derivs. 19. 9. 67 as 060103 C12d-13/10; C12k-1/00; G01n-31/14 (6. 10. 79) AGENCY OF IND. SCI. TECH. (5pp22)

WARN D16 28580X/16 =J7 9031-39
Beta-Galactosidase-detecting diagnostic test system - contg. ortho nitrophenyl beta-D-galactopyranoside substrate
WARNER-LAMBERT CO 30.09.74-US-510816
*B04 R16 (06.10.79) *DT2531-982 G01n-31/14 G01n-33/16*

Diagnostic test system for detecting the formation of β-galactosidase consists of an absorbent material containin per test unit (a) a substrate zone with 0.05 to ca 3.0 mg of dry o-nitrophenyl β-D-galactopyranoside (I) and (b) a buffer zone, adjacent to the substrate zone, with ca 0.01-9.1 m mol of a dry buffer system which provides a pH of ca 6.5-8.5.

A procedure for identifying and differentiating micro-organisms which produce β-galactosidase comprises (i) immersing the substrate and buffer zones of the test system in ca 0.3 ml of a suspension of an unknown culture in physiological saline in a test tube, (ii) incubating the tube ca 4 hrs. at ca 35-37°, and (iii) examining the liquid in the test tube for the presence of a yellow colour as a positive indication of the presence of β-galactosidase-producing microorganisms.

Used for differentiation between Enterobacteriaciae on the basis of their ability to hydrolyse (I) due to the presence of β-galactosidase. Provision of substrate and buffer as adjacent but separate zones gives a stable and sensitive test strip that can be used for the rapid identification of microorganisms. 31. 7. 75 as 093648 (clg. 30. 9. 74-US-510816) G01n-33/16; 31/14 (6. 10. 79) WARNER-LAMBERT CO. (J51047491)

BOFO D16 31921X/18 =J7 9031-397
Polypeptide chromogenic substrates for serine proteases - used to determine blood coagulation factor XA
BOFORS AB 05.12.74-SW-015229
*B04 R16 +P31 (06.10.79) *BE-836-085 G01n-31/14 G01n-33/16*

Chromogenic substrates for serine proteases, esp. for diagnostic determination of Xa factor are of formula: R_1-A_1-A_2-Gly-Arg-NH-R_2, (I) and salts (where R_1 = H, 1-12C alkanoyl, cyclohexylcarbonyl, benzoyl (opt. substd. e.g. by one or two halo atoms, methyl, amino or phenyl) benzenesulphonyl or toluenesulphonyl; R_2 = nitrophenyl, naphthyl, nitronaphthyl, methoxynaphthyl, quinolyl or nitroquinolyl; A_1 = a bond or one of the amino acids Gly, Ata, Val, Leu, Ileu, Pro, Met, Phe or Tyr and A_2 = Glu, Gln, Asp or Asn). Cpd. is specific. benzoyl-Ileu-Glu-Gly-Arg-p-nitroaniline (cpd. A). Substrates are suitable for determination of factor Xa (E.C. 3.4.21.6) or study its reactions.

Factor X is a key substance in the series of reactions leading to coagulation of blood. Activation of factor X involves formation of the proteolytic enzyme, factor Xa which is directly responsible for conversion of prothrombin to thrombin. The hydrolysis of (I) by Xa gives a totally different UV spectra e.g. Cpd. A HCl has a maximum absorption at 315 nm and molar extinction coefficient of 12000 and insignificant absorption at 405 nm. p-Nitroaniline formed in the enzymatic hydrolysis has a maximum absorption at 380 nm with a molar extinction coefficient of 13200 which decreases only to 9620 at 405 nm.

Thus spectrophotometric measurement at 405 nm may be used to follow the hydrolysis. Cpd. A is also an active substrate for trypsin. 4. 12. 75 as 143426 (clg. 5. 12. 74-SW-015229) G01n-33/16; 31/14; 31/22 (6. 10. 79) BOFORS AB (8pp) (J51083595)

ASAH D16 57294R/32 =NL-161-814
Culturing yeasts which utilise hydrocarbons - as carbon source
ASAHI KASEI KOGYO K 26.02.69-JA-013946 (30.01.69-JA-006293)
*(15.10.79) *NL7001-282 C12b-03/12 +A23j-01/18*

Torulopsis petrophilum, Candida petrophilum or Brethanomyces petrophilum are aerobically cultured in a medium contg. a hydrocarbon fraction, boiling at 200-360°C. Process is effected continuously in a system comprising an emulsifying vessel and a main fermentation vessel.

An emulsion is formed in the emulsifier by mixing together a medium comprising an aq. soln. contg. inorganic salts, a nitrogen source, organic N-contg. nutrient, a hydrocarbon fraction, fermentation effluent from the main fermentation vessel, an aliphatic alcohol in concn. of $\ngtr$ 0.5 vol.% based on total medium, and a yeast strain, with aeration. Pre-fermentation is carried out and the emulsified fermentation liquor is then passed to the main fermentation vessel.

Pref. the hydrocarbon concn. in the emulsifier is 5-40-vol.%, and the fermentation vessel effluent is used as 5-75vol.%, both based on total vol. of medium. Shorter cultivation time is achieved, with higher yield based on hydrocarbon feed. 29.1.70 as 001282. (8pp913)

SANO ★ D16 B/44 ★OE 7506-933
Diagnostic detection of coli tero-toxin
SANDOZ-ERFINDUNGEN 09.09.75-OE-006933
B04 J04 R16 (15.10.79) G01n-33/16

PETR- ★ D16 80315B/44 ★SU-645-962
Microorganisms biomass sepn. e.g. yeasts from culture medium - is controlled by water-soluble organic solvent and alkali metal salt or hydroxide
VEB PETROCHEMISCHES 17.03.75-DL-184812
H04 (05.02.79) C12c-11/24

Intensified separation of biomass of microorganisms esp. yeasts from culture media is ensured by using a water-soluble organic solvent and alkali metal salt or hydroxide as a precipitating agent. The culture medium contains petroleum hydrocarbon fractions as source of carbon. Acetone, ethanol, propanol or isopropanol is used as the organic solvent. The process can be used for the sepn. of yeasts in the prodn. of proteins.

The water-soluble solvent is added in amts. of 0.5-10 l/l of culture medium, while salt of hydroxide or alkali metal is fed in amts. of 20-200 g/l. of culture medium.
Teich, W., Faulhaber, E., Bek, D. et al. Bul. 5/5.2.79 17.3.76 as 333355 (2pp89)

CAMO- D16 03583V/02 =SU-646-915
S-adenosil-l-methionine tri-para-toluene sulphonate - - for treating sugar, fat protein and biological amine metabolism
BIORES CAMOZZI LTD (ERR -) 02.08.72-IT-027793
*B02 (08.02.79) *BE-802-981 A61k-31/70 C07h-19/16*

Title cpd. is prepd. by heating a soln. contg. the base with p-toluenesulphonic acid in excess and concentrating and lyophilising the product. The title salt may be prepd. with the aid of ion exchange resins to remove impurities. The base is obtd. by splitting enriched yeast cells with EtOAc. Fiecci, A. Bul. 5/5.2.79. 1.8.73 as 945967 (4pp)

MOSK/ ★ D16 80380B/44 ★SU-646-977
Processing fruit or grape pressings - by extracting with vinasse to give improved nutritive value liquor for wine and beverage mfr.
MOSKAZENKO R I 06.01.76-SU-311888
(18.02.79) A23l-02/02

Diffusion liquor is obtained from fruit or grape pressings by using an extractant to remove from the pressings residual soluble substances. To improve the nutritive value of the liquor as a finished product, the extractant is vinasse, obtained as a waste product in wine-making.

Pressings from a screw press are fed to a continuous extractor filled with vinasse in a vinasse-pressings ratio of 2:3 and at 30-40°C. The mixture is then pressed and the liquor is used to produce natural wines, juices, non-alcoholic beverages and alcohols.
Moskalenko, R.I., Makshtyale, I.A., Makshtyalene, Z.B. Bul. 6/15.2.79. 6.1.76 as 311888 (2pp1358)

UEAR= ★ D16 80512B/44 ★SU-647-297
Bacterial fertiliser prepn. - by cultivation of Rhizobium lupini 367a
UKR EARTH WKG RES 20.06.77-SU-496983
C04 (18.02.79) C05f-11/08

Nitragin (bacterial fertiliser) is prepd. using Rhizobium lupini 367a bacterial strain. The strain has nitrogen-fixing symbiotic characteristics. It can be used in agriculture to increase yield of hay and lupine and improve their quality.

The strain culture medium comprises (in g/l): yeast extract 50; glucose 15; K_2HPO_4 0.5; $MgSO_4$ 0.2, NaCl 0.2, agar-agar 15 and water. The medium pH is 6.6. The strain can be stored for 6 months at 4-5°C in yeast extract medium. The yield of green crops is increased by 10% using above bacterial fertiliser.
Dubovenko, E.K., Malinskaya, S.M., Chechelnitskaya, L.N. Bul. 6/15.2.76 20.6.77 as 496983 (2pp938)

MOMA= ★ D16 80550B/44 ★SU-647-337
Champagne-type sparkling wine prodn. - includes addn. of saccharose, citric acid, brandy spirit and alcoholic infusion of grape press cake for improved aroma
MOSC BR MAGARACH (FOOD=) 25.10.77-SU-537105
(15.02.79) C12g-01/06 C12g-03/04

Compsn. used to flavour champagne type or other sparkling wines is prepd. by introducing into a wine saccharose, citric acid and cognac spirit.

The quality of the product is improved by addition of an alcoholic infusion of grape press cake in an amt. of 15-25% by vol. of the liqueur. When an expeditionary liqueur is prepd. the alcoholic infusion of the grape press cake is

introduced simultaneously with the cognac spirit in a ratio of 1.3.
Mokhuzla, N.A., Sarishvili, N.G. Bul. 6/15.2.79.
25.10.77 as 537105 (2pp70)

KHNO= ★ D16 80551B/44 ★SU -647-338
Clarification of beer, wine, soft drinks etc. - includes addn. of methacrylic acid and methyl methacrylate copolymer soln. as stabiliser, followed by cooling and sepn.
KHARK BR NONALCOHOL (KHPH=) 10.05.77-SU-486547
A97 (A14) (15.02.79) C12h-01/02

Beer, etc. is clarified by introduction of a stabiliser, viz. a 1-2% soln. of a methacrylic acid-methyl methacrylate copolymer in an amt. of 5-12 mg. per 100 ml. of the beer. Then the beer is cooled to 1-3°C and kept at this temp. for 1-3 hr. Subsequently, the resulting ppte. is removed by filtering or centrifuging. The beer is carbonated, poured into containers, sealed and pasteurised.

Beer stabilised by this method retains its foaming power. The colloidal stability of the beer is preserved for 3 months. The taste is not spoiled. The cost is lowered in comparison with other beer stabilisers.
Tikhomirova, G.P., Bezuglyi, V.D., Kalitvyanskaya, V.I et al. Bul. 6/15.2.79. 10.5.77 as 486547 (2pp70)

ASBI= ★ D16 80552B/44 ★SU -647-339
Pseudomonas aeruginosa 640X microbial strain - used in detoxication of waters, industrial effluents, soils and petroleum prods. contaminated with DDT pesticide
AS BIOCHEM PHYS MIC 31.05.77-SU-491234
C03 (D15) (15.02.79) C12k-01

Strain Pseudomonas aeruginosa 640x decomposes DDT to phenylacetic acid.

This strain was found in the soil of an orchard in the Crimea, which was treated with DDT for 23 years. The strain appears in the form of small rod-like cells (0.7-1.0 x 0.3-0.5 μ) mobile, gram-negative, non-sporophoric.

The strain grows under aerobic conditions. The optional temp. is 29-30°C. The oxidase reaction is positive. Poly-β-hydroxybutyric acid is not accumulated. Suitable nutrient media include meat-peptone agar or broth, mineral medium E-8, and the like.
Skryabin, G.K., Golovlev, E.L., Golovleva, L.A. et al. Bul. 6/15.2.79. 31.5.77 as 491234 (3pp70)

NEST D16 77091W/47 =SU -648-116
Microbial protein prodn - using mineral oils as substrate culture medium being force-circulated via fermentation vessel and external cooler
SOC PROD NESTLE SA 28.05.74-CH-007249
*(20.02.79) *BE-828-763 C12b-01/10*

In the prodn. of protein by aerobic growth of micro-organisms in a feed fluid providing a supply of carbon for assimilation, the micro-organisms and culture medium are circulated in a closed circuit between two different levels. The culture medium rises to the upper level via a fermentation vessel as bubbles of oxygen, or oxygen-rich gas, rise from a press. inlet at the bottom of the vessel, the medium being simultaneously rotated about the vertical axis by an agitator which also urges the medium upwards in the vessel.

The culture medium is pref. cooled as it circulates outside the vessel. Culture medium rising out of the top of the fermentation vessel is then pref. partly degassed, cooled, split into two fractions, one of which is separated to yield cellular product while the other fraction is enriched with feed fluid and recycled via the fermentation vessel.

Used for prodn. of proteins from mineral oils, partic. for high rate industrial prodn. of the order of 10-20 g. of cellular prod. per litre of culture medium per hr. Reduced power for highly efficient dispersion of gas in culture medium is possible high plate circulation gives high output potential with excellent cooling. Adaptable to suit widely different cultures.
[illegible]

KIRO= ★ D16 80634B/44 ★SU -
Yeast or milk of lime prodn. control - by stabilising water flow over a period plus rise found by function generator
KIEV PROD IND TECHN 07.10.75-SU-179194
E33 R26 (28.02.79) B01f-03/12 G05d-27

Known automatic control of lime milk prodn. with pe cal infeed of lime involves varying the water flow-ra according to the density of the lime milk at the exit mixer. Now, for more accurate stabilisation of the the effect of inertia is overcome by stabilising the wa flow-rate at a value equal to the flow over a period p any rise established by a function generator. The m is useful in hydrolysis and yeast inds.
Tregub, V.G., Stadnichenko, A.I., Kalendro, E.L.
Bul. 7/25.2.79. 7.10.75 as 179194 (3pp840)

RENT D16 66981Y/38 =US 41
Mass culture of diploid cells for vaccine prodn. etc. - in cont conditions in single batch multidish vessel
RENTSCHLER ARZNEIMITTEL 28.05.76-DT-624047
*A97 (23.10.79) *BE-854-898 C12k-09*

Cells, e.g. diploid cells for vaccine production, are grown on a large scale in a stack of flat troughs with outer edges seated air- and liquid-tightly and each tro having two corners with overflows spaced above the tr bottom and opening to the next lower trough. Solns. a distributed by gravity with the stock on its side while pressure is equalised via a central aeration and exhau channel.

After filling, the channel is closed and the stack pl horizontally so that the contents are distributed over t trough bottoms. After growing under controlled condit the stack is again placed on its side for recovery of the -pension. The trough bottoms are pref. of cell-recept polystyrene. 27.5.77 as 801056 (7pp1358)

EURT D16 24637W/15 =US 4172
Decomposing domestic refuse - by mixing soln. of refuse at aer decomposition temp. and sepg. liq. from solids
EUROC ADMINISTRATION AB (EURO-) 01.10.73-SW-013306
*+P41 Q42 (23.10.79) *DT2445-636 C02c-05/10*

Appts. for batch biological treatment with a large propo tion of degradable solids and liquids, including domesti refuse, has two reactor vessels each with a top inlet co nected to a common supply delivering to the vessels alt nately so that one is operating while the other is filling.

Each vessel has a motor-driven rotatable agitator wi blades cooperating with stationary wall bars to break up the vortexing and comminute solids. Diluent water can fed to each vessel, and compressed air is blown into slu ry in the operating vessel. Each vessel has a bottom he -er and outlet for treated waste. 13.2.78 as 877459 (+ 24.9.74, 24.5.76 - US - 508944, 689299)(7pp1358)

ASHM/ ★ D16 80754B/44 ★US 4172-0
Prepn. of buffered metal proteinate(s) - by treating protein wi enzyme then with bivalent metal salt and buffer
ASHMEAD H H 20.10.77-US-843971
B04 C03 (23.10.79) A61k-31/66 A61k-37 C07g-07/04

Buffered metal proteinates (I) are prepd. by hydrolysing a protein source in presence of an enzyme under neutra conditions to form an aq. mixt. of tripeptides, dipeptides and amino acids. The mixt. is treated under neutral conditions with a salt of a bivalent metal (II) so that the ratio of the 3 amino cpds. to metal is ≥ 2 : 1. Then base is added to pH 7.5-10 to form (I), and alkaline buffer is added to pH 7.5-10.

(I) are effective forms of essential bivalent metals for admin. to animals and for appln. to plants. They are eco -omically obtd. by a simple process. 20.10.77 as 843971 (6pp1248)

WIST- ★ D16 80773B/44 ★US 4172-12
Producing antibodies specific for malignant tumours - using fused cell hybrids of myeloma cells and e.g. spleen cells
WISTAR INST 28.04.78-US 901102
B04 (23.10.79) A61k-39 C12k-09

Malignant tumour antibodies are produced by immunising an animal with tumour cells, forming fused cell hybrids between antibody-producing cells from the animal and myeloma cells, cloning the hybrids and selecting clones which produce antibodies that demonstrate a specificity for the tumour cells.

The tumour cells for which antibodies may be obtained embrace human cancer cells including e.g. melanoma, fibrosarcoma, breast carcinoma, lung carcinoma, colorectal carcinoma and uterus carcinoma.

Pref. the antibody-producing cells are those of the spleen or lymph nodes. The particular species of animal from which the myeloma and spleen cells are derived is not critical insofar as it is possible to fuse the cells of one species with another e.g. mouse to rat, rat to human or mouse to human, but it is preferred to use the same species for both cells. 28. 4. 78 as 901102 (5pp476)

SANY D16 35268A/20 =US 4172-126

Inactivating microbial toxins and weakening vaccines - by treatment with new tannin from fruit of Diospyros species

SANKYO KK 08.03.77-JA-025309 (08.11.76-JA-133956)

*B04 (23.10.79) *DT2749-961 A61k-39/02*

In activation of a microbial toxin or the attenuation of a vaccine, comprises contacting the toxin or including in the vaccine tannin derived from fruit of the genus Diopyros. Pref. species of Dipyros is D. Kaki, D lotus or D. ebenum.

The tannin is obtd. by (a) extracting the fruit with water and/or water-miscible organic solvent, and removing insoluble material, (b) concentrating the liq. extract, diluting with lower alcohol and removing insoluble material, (c) precipitating tannin by adding a non-solvent for tannin, and (d) dissolving the pptd. tannin in water, sterilising the soln. and freeze-drying. 27. 10. 77 as 846149 (9pp 924)

RESE D16 88324A/49 =US 4172-127

Administration of peptococcus ásaccharolyticus to ruminants - for preventing lactic acidosis or rumenitis

RESEARCH CORP 04.09.75-US-610337 (22.06.78-US-917955)

*C03 +P14 (23.10.79) *GB1535-111 A23k-01/16 C12b-01 +A61k-35/66*

Microorganism Peptococcus asaccharolyticus is cultured, the resulting culture lyophilised and the lyophilised culture then administerd to a ruminant animal to establish a growth of the microorganism in the animal. Pref. the lyophilised culture is admixed with water or the microorganism is admixed with water or culture medium before being administered to the animal.

Pref. the lyophilised culture is encapsulated in a carrier and then administerd to the animal. Lactic acidosis is greatly reduced or eliminated and weight gain and feed conversion are increased. 22. 6. 78 as 917955 Div. ex. 4112069 (6pp424)

BEEC D16 67721W/41 =US 4172-129

Beta-lactamase inhibitor MM 4550 - isolated from product of Streptomyces culture, for use in antibacterial medicaments

BEECHAM GROUP LTD 28.03.74-GB-013855

*B04 (23.10.79) *DT2513-855 A61k-35*

Pharmaceutically acceptable dibasic salt of MM4550A which is $\geqslant$ 70% pure is described. MM4550A is a solid carboxylic acid of molecular formula $C_{13}H_{16}O_9N_2S_2$.

In the form of its pure Na salt the acid (a) has UV absorption maxima at 238 nm and 287 nm, in aq. soln.; (b) has ir absorption maxima at 3450, 2950, 1765, 1695, 1510, 1390 and 1260 cm^{-1} as 0.4% w/w KBr disc; (c) has nmr spectrum showing (i) pair of low field doublets centred at 2.45τ and 3.65τ with coupling constant 15Hz; (ii) doublet centred at 8.55τ, and (iii) a sharp singlet at 7.95τ; (d) possesses antibacterial activity against strains of Staphylococcus aureus, Bacillus subtilis, Escherichia coli, Klebsiella aerogenes, Proteus mirabilis, Acinetobacter anitratus, Serratia marcesceus and Shigella sennei; (e) synergises antibacterial activity of ampicillin against certain β-lactamase producing strains, and (f) is not a polypeptide or protein.

The cpd. can be obtd. by fermentation of strains of Streptomyces olivaceus. 24. 8. 76 as 717197 (17pp424)

See Also

D12 DT 2856821 D13 DS 2613786 D13 GB 1555000
D15 GB 2019378 D15 J5 4123578 D25 EP ---5131

D17: SUGAR; STARCH

LABA ★ D17 79336B/44 ★DT 2915-448

Dry, odourless, tasteless vital gluten prepn. - by vacuum dehydration of wet gluten dispersed in emulsifier-contg. hydrophobic edible liq.

LABATT J LTD 17.04.78-US-896938

(25.10.79) A21d-02/26 A21d-08/06

A new, dry, modified vital gluten prod. (B) is prepd. by (a) dispersing wet vital, esp. normal gluten, (A) in a water-repellent liq. (I), having foodstuff quality, in the presence of an emulsifier, (II) having foodstuff quality; (b) reducing the pressure from ambient pressure pref. to 63.5 (69-8) esp. $\geq$ 71.1 cm Hg, and heating, from ambient temp. to a temp. below (A)-denaturing temp., for a time sufficient to dehydrate (A) and to an odourless, tasteless prod. (B) and (c) separating (B) from the liq.

(B) has increased storage-life. It is sufficiently odourless and tasteless for use in bread, baked animal feedstuffs and in emulsified meat compsns. 17.4.79 as 915448 (37pp200)

CENC- ★ D17 79598B/44 ★GB 2019-564

Sepn. and analysis of saccharide mixt. - by sepn. with buffer on column, hydrolysis, and reaction with alkylene poly:amine

CENCO INSTRUMENTEN 20.04.78-NL-004208

E13 J04 R16 (31.10.79) G01n-21/26 G01n-31/04

Mixt. of saccharides (I) (possibly contg. $\geqslant$ 1 non-reducible oligo-(I)) is sepd. and analysed as follows: (a) a mixt. of (I) and one or more buffers is passed through a separating column; (b) the eluate is passed through a reactor wh- when any oligo-(I) is hydrolysed; (c) any mono-(I) present in the resulting eluate (from original mixt. or produced in hydrolysis step (b)) is detected by treatment with an alkylene polyamine (II) (with $\nless$ 2 adjacent NH_2 groups).

Sensitive process allows both reducible and non-reducible (I) to be detected and analysed with sensitivities in the pico-mole range. In addition, the polyamines (II) do not have any aggresive props and conventional detection appts. may be used without special precautions. 6. 4. 79 as 012270 (4pp478)

KANK- ★ D17 80225B/44 ★J7 9031-049

Pretreating sugar beet - by drying chopped beet to water content of at most 15 per cent before extn. of sugar

KANKOKU KAG GIJ KEN 06.08.75-JA-095680

(04.10.79) C13d-01/08

Method comprises drying chopped sugar beet to a water content of $\leqslant$ 15% before extn. of sugar. The treatment facilitates extn. of sugar and increases the sugar yield, and simultaneously reduces extrn. of impurities. 6. 8. 75 as 095680 C13d-1/08 (4. 10. 79) KANKOKU KAGAKU GIJUTSU KENKYUSHO ZH (4pp83) (J52018837)

ASAH D17 73148T/46 =J7 9031-050

Desalinating sugar solns - by electrodialysis

ASAHI CHEMICAL IND KK (TAIT ASAH) 14 11 69 JA 091260

*(04.10.79) *GB1296-244 C13d-03*

The method comprises (i) removing organic non-sugar substances, and (ii) electrodialytically removing inorganic substances by use of alternate layers of cation-exchange membrane and ion-permeable membrane with ion-exchange capacity of $\leqslant$ 0.3m equiv./g.

The method completely removes impurities from sugar soln. at any step of sugar manufacturing process, and increases yield of sugar. The process (i) includes usual purification methods, e.g. liming, carbonation, phosphation, adsorbent treatment, etc. 14.11.69 as 091260 C13d-3/00 (4.10.79) DAITO KK; ASAHI CHEMICAL IND. KK (12pp83)

LAEV D17 55451R/31 =J7 9031-051
Lactulose concentrates which are substant- - ially colourless
LAEVOSAN-GES CHEM PHARM 07.02.69-OE-001256
*E13 (04.10.79) *BE-745-517*

BOEF D17 62267R/35 =J7 9031-052
Agglomerated fructose
BOEHRINGER MANNHEIM GMBH 25.02.69-DT-909316
*(04.10.79) *NL7002-612*

NISH- D17 05522R/04 =J7 9031-053
Mixtures of sugar with additives
NIPPON SHIRYO KOGYO (PENI) 15.07.68-US-744642
*(04.10.79) *DT1935-880*

HAYB D17 15411R/10 =J7 9031-054
Preparation of high mol wt amylose
HAYASHIBARA KK 03.09.68-JA-063172
*(04.10.79) *NL6913-297 C13l-01/08*

Method comprises forming paste of 15 wt.% aq. dispersions of starch with amylose content ⩾50 wt.%, rapidly cooling the paste to 45-60°C, and reacting α-1,6-glucosidase with the paste to hydrolyse branched chains of amylpectin molecules.

Useful for producing film, amylose deriv., etc. The method gives amylose of 100% purity, with molecular wt. comparable with natural amylose.

The starch of amylose content of ⩾50 wt.% is amylomaize starch or crude amylose of amylopectin content of 20-50 wt.% separated from corn, potato, wheat, etc. The pasting is carried out at ca 100°C pref. in inert gas atmosphere so as to prevent decomposition of amylose. 3.9.68 as 063172 C131-1/08 (4.10.79) HAYASHIBARA KK (4pp83)

FIVE ★ D17 80668B/44 ★US 417
**Drying installation for particulates esp. cane sugar - has centr
separator which ejects dry particles into receptacle**
FIVES-CAIL BABCOCK 16.01.78-US-869803
J08 Q76 (23.10.79) F26b-17/30

Drying installation for a liq.-contg. particulate prod. c
prises a centrifugal separator removably mounted on a
-porting frame. The separator comprises a basket wh
rotates about a horizontal axis and has a filter for sep
from the particles of the prod. Particles are ejected fr
the discharge end of the basket into a large receptacle
mounted on the supporting frame. The receptacle has a
vertical wall with an opening into which the discharge e
of the basket extends.

Used in drying cane sugar crystals. The separator
be moved horizontally to locate it with the discharge en
of the basket extending into the receptacle, and can be
removed without dismantling the receptacle. 16.1.78 a
869803 (8pp67)

$TBR ★ D17 80800B/44 ★US 4172-
**Washing regenerated weak base anion exchange resin - use
purify corn syrup, with water and carbonic acid soln.**
STANDARD BRANDS INC 04.12.78-US-966291 (28.03.77-
781810)
J01 (23.10.79) B01d-15/06 B01j-01/09

In the regeneration of exhausted weak base anion exchar
resins which have been treated with a regenerant soln.
restore the anion exchange capacity of the resins, with
prodn. of regenerant waste prods., the resin is then (a)
washed with water to remove part of the waste prods. a
finally (b) washed with a CO_2 soln. to remove further an
of waste prods.

The resins pref. contain prim., sec. and/or tert. am
gps. The resin is regenerated by means of a soln. of
NaOH, Na_2CO_3 or NH_4OH. The CO_2 soln. is prepd. by s
urating water with CO_2 at room temp. and pressure.

The use of the resins is the refining of corn syrups.
Regeneration requires a relatively short time. The life
the resin is increased. The total amt. of prod. refined p
foot³ of resin is greater. 4.12.78 as 966291 (10pp510)

See Also

D16 J7 9031075

D18: SKINS; HIDES; LEATHER; TOBACCO

AMMA D18 08187S/04 =DS 2032-377
Synthetic tobacco product contg ethylhy- - droxyethyl cellulose
AMF INC 24.07.69-US-844631
*A18 P15 (A25 A97) (25.10.79) *BE-753-866 + A24b-15*

A smokable prod. is made from a foamed suspension comprising tobacco particles, water, a foam stabilising agent (I) and opt. a foaming agent. Cpd. (I) is an ethylhydroxyethyl cellulose with an ethoxyl substitution degree of 0.5-1.2 and it is present in an amt. of 0.3-2.5 wt.%, based on solids present. The foaming agent is a natural or synthetic hydrophilic gum and is present in an amt. of 3-15 wt.% based on solids present. The foamed suspension is formed at a temp. under the gelation temp. of (I) and then dried to a predetermined moisture content. The foam may be shaped into sheets of reproducable density which can be shredded to form the filling for cigarettes, etc. 30.6.70 as 032377 (5pp068)

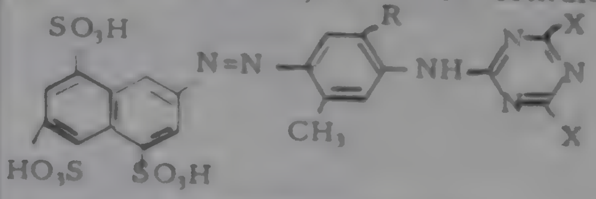
HAUN ★ D18 79218B/44 ★DT 2816-165
Bonding cigarette or filter wrapping - by coating strip with aq. EVA copolymer hot melt adhesive dispersion and heating
HAUNI-WERKE KORBER KG 14.04.78-DT-816165
A81 G03 P15 (A17) (25.10.79) A24c-05/24

A wrapping for smoking articles or filters is glued by (a) coating the wrapping, while transported, with an aq. dispersion of a hot melt adhesiv e, (b) heating the hot melt adhesive to expel water, (c) heating the dried hot melt adhesive to at least its m.pt. and (d) glueing the wrapping.

Fast-operating machinery can be used without the nee
for high temps. or long drying stretches. Pref. hot melt
adhesive is EVA copolymer. 14.4.78 as 816165 (19pp200

BADI ★ D18 79257B/44 ★DT 2816-93
**Reactive mono:azo dyes of aromatic series - contg. s-triazinyl gps
for use on cellulose fibres and leather**
BASF AG 19.04.78-DT-816937
E21 F06 (25.10.79) C09b-62/08

New active azo dyes are of formula (I)



(I)

(in which R is methoxy or ethoxy; X is Cl or Br)

Used for dyeing cellulose textiles, esp. in cold proce-
sses, and leather in yellow shades. Good light and wet
fastness is achieved with high colour strength. 19.4.78 a
816937 (6pp195)

AOS ★ D18 79424B/44 ★EP ---5-004

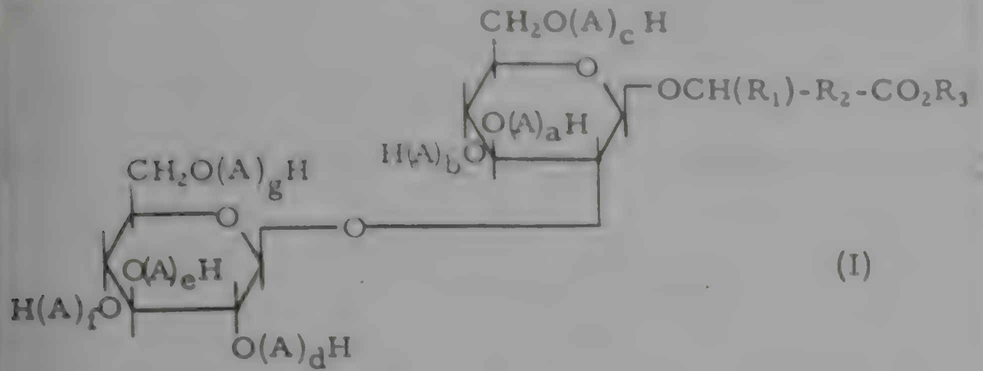
ydroxyalkyl etherified glyco:lipid ester(s) - with wax-like operties and surfactant characteristics, for treatment of leather, osmetics, etc.

KAO SOAP KK 03.03.78-JA-024306

A25 E13 F06 (A97 D21) (31.10.79) C07h-15/04 C12d-13/02

/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

ydroxyalkyl-etherified glycolipid esters (I) are new:



(I)

(where R_1 = H or Me; R_2 = opt. unsatd. hydrocarbon (11-15C when R_1 = Me, 12-16C when R_1 = H); A is $-CH_2CH_2O-$ or $-CH_2CHMeO-$; a-g are integers whose sum = 1-60; R_3 = (i) 1-20C, opt. unsatd. hydrocarbon, or (ii) $(A)_zH$; z is an integer such that the sum of all a-g and z is 1-60).

(I) are wax-like substances possessing surfactant props. (I) have a wide variety of uses as oils for cosmetics and leather, softening lubricants for fibres, rust inhibitors, oils for stationery and printing, quality-improving agents for waxes, cleansers, and glazing materials etc. (I) have good heat stability.

28.2.79 as 300303 (31pp478).

(E) ISR: GB2002369; FR2399438; DT2834118; 1 Journal Reference.

PHIM ★ D18 79461B/44 ★EP ---5-082

Removal of nitrate from tobacco materials - by dissimilatory denitrification with microorganisms, e.g. paracoccus denitrificans

PHILIP MORRIS INC 25.04.78-US-900044

P15 (D15) (31.10.79) A24b-15/04 C02c-01/02

D/S: E(BE, CH, DT, FR, GB, IT, NL).

Denitrification of nitrate-nitrogen (I) from tobacco materials, extracts, or processing effluents is effected by (a) inoculating the tobacco-contg. substrate with sufficient denitrifying microorganisms (II) to give a concn. effective in reducing (I) by dissimilatory denitrification in which N_2 gas is formed; and (b) continuing the fermentation until a substantial degree of denitrification has been achieved.

Inexpensive process reduces the (I) content as well as the total N_2 content of a wide variety of tobacco-contg. materials (esp. burley tobacco), but does not alter the cation content. When smoked, treated tobacco prods. produce significantly reduced amts. of nitrogen oxides.

25.4.79 as 300706 (18pp478).

(E) ISR: —

FARH D18 64473Z/00 =NL-161-799

Water sol polyazo dyes - for leather and fur

HOECHST AG 17.04.68-DT-769175

*E21 (15.10.79) *NL6903-889 C09b-33/18 D06p-01/06*

Water-soluble polyazo dyes contain 2 diazo gps.-contg. fragments joined to a resorcinol coupling moiety, and are of formula (I):

$$C \rightarrow \left[\begin{array}{l}\text{1-amino-8-hydroxynaphthalene}\\ \\ \text{-3,6-disulphonic acid}\end{array}\right. \rightarrow \text{resorcinol} \leftarrow (A \leftarrow B),$$

where A is a 1-(3^1- or 4^1-aminophenyl)-5-pyrazole, having a methyl- or carboxyl (opt. esterified by 1-5C alkanol) at the 3-posn., and the phenyl opt. substd. by methyl, Cl, or Br; and B and C are aminobenzenes, opt. nuclear substd. by 1 or 2 sulpho gps. and/or sulphomethyl, methyl, methoxy, Cl or Br.

(I) are prepd. by combining strongly acid-acting diazotised 1-amino-8-hydroxynaphthalene-3,6-disulphonic acid with a weakly alkaline resorcinol soln., and coupling the mono-azo dye produced with a diazotised amino mono azo dye in an acid medium (the amino mono azo dye being formed by diazotising the opt. nuclear-substd. aminobenzene and combining with opt. 3-substd. aminophenyl pyrazole). The coupling soln. formed is made weakly alkaline and the trisazo dye formed is combined with a strongly acid acting, opt. nuclear-substd. aniline.

(I) are used for dyeing leather and fur velours. The dyes are new, and have good resistance to acid, water, wax, sweat, solvent and abrasion. They produce yellow-brown shades. 13.3.69 as 003889. (5pp913)

JACO/ ★ D18 80288B/44 ★NL 7803-911

Cigarette substitute contg. vapour-releasing material - esp. synthetic foam impregnated with

JACOBS W 13.04.78-NL-003911

P15 (16.10.79) A24d-01/18

A substitute cigarette comprises a tubular casing filled with a synthetic foam which has been satd. with aromatic material, and which is fitted into the cigarette in wads. These wads are enclosed between two porous end locations, which act as filters.

The substitute can also be made in cigar form. The oil used for satn. of the foam is composed of e.g. 33% menthol, 30% acetone/wintergreen, 2% lavender and 1% isotones. Alternatively, a granular aromatic substance can be used, such as aniseed. The substitute cigarette or cigar does not need to be lit, it being sufficient for the vapours of the aromatics to be inhaled. 13.4.78 as 003911. (5pp1161)

LEAT= ★ D18 80316B/44 ★SU-645-964

Compsn. for treating hides before tanning - contg. common salt sulphuric acid, surfactant, alum and potassium bi:chromate and water

LEATHER FOOTWEAR 09.01.73-SU-876758

E31 (E33) (05.02.79) C14c-01

The intensity of the subsequent tanning is increased by adding to the salt and acid compsn. a surfactant, alum and potassium bichromate.

The compsn. contains (in wt.%) common salt 2-8, alum 1-5, potassium bichromate 0.3-0.5, a surfactant 0.3-0.5, H_2SO_4 0.4-0.8; the balance is water.

Treatment with this compsn. facilitates the subsequent penetration of basic chromium salts deep into the hide. The resistance of the material to compressive deformation during the subsequent drying is increased. The alum penetrates deeply into the hide. The chrome-tanning is accelerated.

Bresler, S.M., Kutin, V.A., Kupchenko, L.D. et al. Bul. 5/5.2.79. 9.1.73 as 876758 (2pp70)

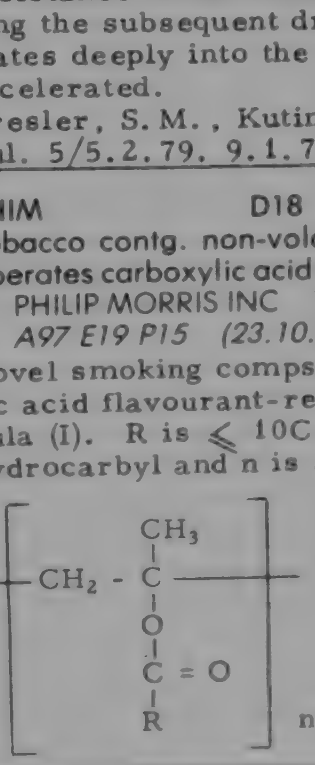
PHIM D18 55674B/30 =US 4171-702

Tobacco contg. non-volatile polymer of isopropenyl ester - which liberates carboxylic acid as aroma during smoking

PHILIP MORRIS INC 10.01.78-US-868562

*A97 E19 P15 (23.10.79) *NL7900-160 A24b-15/04*

Novel smoking compsns. contain ≤1.0 wt.% of a carboxylic acid flavourant-release poly(isopropenyl ester) of formula (I). R is ≤ 10C aliphatic, alicyclic or aromatic hydrocarbyl and n is 2-200, pref. 5-50. Pref. R is 1-6C aliphatic, esp. (m)ethyl, (iso)propyl, (iso)butyl or pentyl.



$$\left[-CH_2-\overset{CH_3}{\underset{\underset{\underset{R}{|}}{\overset{|}{O}-\overset{|}{C}=O}}{C}}- \right]_n$$

The compsns. are pref. based on natural tobacco, tobacco-substitute or a mixt. of natural and reconstituted tobacco. 10.1.78 as 868562 (6pp974)

FARH D18 67652W/41 =US 4171-705

Modified cellulose-contg cigarette filter - has improved tar and nicotine retention

HOECHST AG 28.03.74-CH-004300

*A97 P15 (23.10.79) *DT2512-511 A24b-15/02*

Novel cigarette filters are of cellulosic material in the form of a granulate, a powder, a creped film or a fibre. They are made at least partially of naturally occurring or regenerated cellulose modified with ≥1 ≥ 14C cpd. (I).

(I) has >1 fatty acid gp. and is a complex cpd. of a fatty acid contg. basic Cr chloride or a melamine precondensate contg. a fatty acid gp.

Filters reduce tar and nicotine contents of smoke by more than cellulose acetate filters. 17.12.76 as 751629 Div. ex 4051611 (+ 26.3.75 - US - 562143)(4pp974)

See Also

D13 NL 161745

D2: DISINFECTANTS; DETERGENTS

D21 : DENTAL; TOILET PREPARATIONS

COLG ★ D21 79129B/44 ★BE -877-226
Magnesium poly:carboxylate complex anti:tartar compsns. - contain a poly:carboxylate chosen from maleic acid or anhydride copolymers, sulpho:acrylic oligomers or tri:carboxy-oxa-butanol or pentano
COLGATE PALMOLIVE CO 19.12.77-US-861795
A96 B05 (A14 B04) (15.10.79) A61k

Buccal compsns. contains as anti-tartar agent a magnesium polycarboxylate complex formed from a magnesium cpd. and a polycarboxy cpd. having ionisable carboxy groups chosen from (a) a copolymer of maleic acid or of maleic anhydride or of maleic anhydride and an olefin; (b) sulpho-acrylic oligomers having an average m. wt. $<$1000 and (c) a tricarboxy-oxa-butanol or pentanol, which is joined ionically to the dissociable magnesium cpd.

Used in prevention of dental tartar by using the compsn. as a mouthwash or as a dentifrice, so that the complex is absorbed on the buccal surfaces to form a reservoir of magnesium ions which are slowly released in the buccal cavity. 25. 6. 79 as 877226 (28pp395)

WOLF- ★ D21 79155B/44 ★BE -877-351
Compsns. for seborrhoea treatment - comprising fatty acid in alcohol or aq. alcohol solvent
WOLFF A CHEM-PHARM 28.06.78-DT-828352
A96 B05 (15.10.79) A61k

Compsns. for treating seborrhoea comprises solns. of 8-12C fatty acids (pref. capric or lauric acid) in an alcohol or aq. alcohol solvent. The fatty acid concn. is pref. 0.1-40%. Suitable solvents are ethanol isopropanol, propylene glycol and/or polyethylene glycol, opt. mixed with variable amts. of H_2O.

Typically, an anti-seborrhoea compsn. is obtd. by dissolving 5 parts capric acid in 100 parts of 96% ethanol. 28.6.79 as 877351 (4pp367)

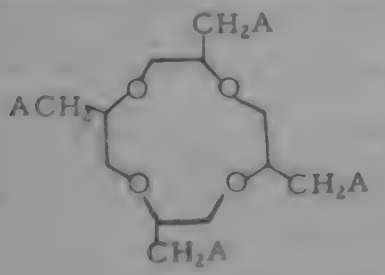
HANN/ ★ D21 79207B/44 ★DT 2815-794
Dental wax mixt. - contains refined paraffin, neutral microcrystalline hydrocarbon wax, neutral hydrocarbon resin and polyethylene wax
HANNES H 12.04.78-DT-815794
A96 P32 (A17) (25.10.79) A61c-09

Dental wax mixt. consists, by wt., of (a) 30-45% fully-refined paraffin contg. 0.5% oil and having m.pt. 54-56 °C (b) 8-25% neutral, plastic, micro crystalline hydrocarbon wax having m.pt. 68-72°C, (c) 20-30% neutral hydrocarbon resin having m.pt. 90-100°C and (d) 24-35% polyethylene wax having m.pt. 95-100°C.

Adhesive kneading compsns. are obtd. which can be re-used by dentist until an exact denture pattern is achieved. 12.4.78 as 815794 (5pp200)

OREA ★ D21 79372B/44 ★EP ---4-863
Surface active derivs. of tetra:oxo-cyclododecane - useful in cosmetic and pharmaceutical compsns.
L'OREAL SA 17.03.78-FR-007914
B03 E13 (B07) (31.10.79) A61k-07/06 A61k-31/33 C07d-323 C07d-407/12
D/S: E(BE, CH, DT, FR, GB, IT, NL, SW).

(A) Cyclic polyethers of formula (I) are new:



(I)

(A is an amphiphilic residue consisting of a lipophilic fragment (L) and a hydrophilic fragment (H'), A being attached to the ring via (H');
H' is $\geq$ 1 gp. contg. amine, amine oxide, ammonium, ammonio alkanoate, ammonio alkylsulphonate, ammonio alkylsulphinate, thioether, sulphoxide, sulphonium, sulphoxonium, ether, OH, ester, amide or acid gps.
L is $\geq$1 1-20C aliphatic, 6-20C substd. aliphatic or 6-20 C alkaryl (with $\not>$ 14C alkyl) gp.).

(B) Also new is the intermediate (II) in which A is replaced by OH.

(I) are surfactants useful in cosmetic and pharmaceutical compsns. at $\geq 0.5 \times 10^{-2}$ g/l, e.g. in shampoos and hair dyeing compsns. Far lower concns. are required compared with known surfactants of comparable lipophilic chain length and (I) are less irritating to the skin and mucosa. They are also useful in the textile and insecticide industries.
14.3.79 as 100759 (73pp1251).
(F) ISR: FR2359165.

JOHJ ★ D21 79432B/44 ★EP ---5-013
Non-precious metal dental alloy - contg. nickel, chromium, silicon, molybdenum and boron
JOHNSON & JOHNSON 30.03.78-US-891791
M26 P32 (31.10.79) A61c-13/08 A61k-05 C22c-19/05
D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

An alloy, for use in dental applications, has the compsn. (by wt.) 65-80% Ni, 12-20% Cr, 3.5-5.0% Si, 3.0-6.0% Mo, and 0.2-0.6% B. It has a fusion temp. of 2500-2450°F, a tensile strength of $\geq$80,000 psi, and a coefft. of expansion of 13.6-14.5 x 10^{-6} in/in/°C.

Also claimed are (a) a dental restorative construction consisting of a shaped core of the alloy and a bonded porcelain covering; and (b) a method of preparing (a) by casting the core, covering it with a porcelain having a coefft. of expansion of 10-21 x 10^{-6} in/in/°C, and firing the porcelain onto the core.

The alloy is used as a replacement for the heavier and more expensive gold for artificial teeth, crowns, bridges, inlays and outlays. The alloy has good corrosion resistance and oxidation resistance, an UTS of 80,000-120,000 psi (cf. 65,000-90,000 psi for gold), an elongation of 2-5% a Rockwell B hardness of 90-100 (cf. 86 for gold) and improved polishability over prior art non-precious alloys (a lustre equivalent to gold is obtd. with only slightly more effort than required to polish gold), it can be remelted and cast without loss of physical properties, may be used with presently employed dental solders, may be faced with dental plastics materials such as acrylics, and does not contain metals which stain porcelain or plastics coatings. The alloy bonds well to porcelain, giving a bonding strength of $>$ 5000 psi.
29.3.79 as 300508 (27pp935)
(E) ISR: US3914867; FR2299010; US4129944; FR2236012; US4038074; J54043718; 1 Journal Reference.

KUKI- D21 02249A/02 =GB 1554-794
Cleaning dental prostheses in aq. soln. - using tablet contg. sulphamic acid, ethylene diamine tetraacetate, polyvinyl pyrrolidone, etc.
KUKIDENT K KRISP 20.10.76-DT-647364
*A96 E19 (E34) (31.10.79) *DS2647-364 +C11d-07/60*

A tablet for cleansing dentures in aq. soln. comprises ethylene diamine tetraacetate covered by a layer of sulphanic acid. Pref. the outer layer also contains $\geq$1 water softener (not an oxidising agent) and the inner layer contains an oxidising agent and surfactant(s). It may also contain a polymeric dye carrier having surfactive cleansing properties, esp. polyvinyl pyrrolidone, dibasic calcium phosphate, corn starch, etc. The outer layer is such that it completely dissolves before the inner layer starts to dissolve.

Good cleansing action is obtd. without increasing the amt. of active agents. 10. 10. 77 as 042157 (14pp976)

ARUB- ★ D21 80018B/44 ★J5 4123-106

Antimicrobial soap - contains antimicrobial agent e.g. phenol (deriv). and tocopherol (deriv).

ARUBOSU YAKUSHO KK 17.03.78 JA-031436

E14 (25.09.79) C11d-09/50

The soap contains (a) 0. 05 to 5. 0 wt. % antibiotic, e. g., phenol, cresol, ortho-phenylphenol, or halogenated phenols such as parachlorophenol, ortho-benzyl-para-chlorophenol, 2, 4, 4'-trichloro-2'-hydroxydiphenylether, 2, 2'-methylenebis (3, 4, 6-trichlorophenol), parachlorometacresol, etc., and their derivatives and (b) natural or synthetic tocopherol (deriv.) in a proportion of 0. 1 to 5. 0 pts. wt. q. r. t. 1 pt. wt. antibiotic.

The soap is very stable having high antimicrobial activity for long time without decolouration by exposure to the sunlight. It is non-toxic to humans and animals, and thus is very useful in sterilising and medicinal soaps. 17. 3. 78. as 031436 (5pp117)

SUNZ D21 85707Y/48 =J7 9031-046

Saccharin free dentrifice compsns. - contg. anethole as saccharide substitute and (1) menthol

SUN STAR DENTIFRICE 12.04.76-JA-041479

*E15 (E14) (04.10.79) *J52125-639 A61k-07/16*

Compsn. contains 0. 1-0. 2 w/w% menthol and 1/9-9(2/3-1) t. has the amt. of 1-menthol of anethole. Pref. anethole is applied singly or in the form of fennel oil contg. anethole 50-60%. If the dentifrice compsn. contains silica 0. 5-30%, the amt. of 1-methol used can be increased to 0. 1-0. 3 w/w%.

Compsns. are not bitter and give an excellent refreshing on application. Compsn. is used in the form of tooth-powder, wet tooth-powder, toothpaste, tooth ointment, aq. dentifrice, etc. 12. 4. 76 as 041479 A61k-7/16 (4. 10. 79) SUN STAR DENTIFRICE (4pp) (J52125639)

SUNZ D21 11582A/06 =J7 9031-047

Tooth paste and mouth wash compsns. - contain ethyl butyrate, benzyl formate and opt. isoamyl formate in place of sweeteners

SUNSTAR HAMIGAKI KK 19.06.76-JA-072330

*E17 (E14) (04.10.79) *J52156-939 A61k-07/16*

In a dental paste (or mouth-rinse) formulation, 0. 1-1. 0-(0. 1-0. 5)wt. % of flavour mixt. composed of ethyl butyrate, benzyl formate and opt. isoamyl formate is used in place of sweetening agent such as saccharin or sugar. The compsn. provides a refreshing feeling after use.

Generally, dental paste (and mouth-rinse) compsns. comprise abrasives, wetting agents, binders, surfactants, etc., which tend to give so-called "base odour". Sweetenings conventionally used for masking the base odour can be satisfactorily replaced by 1:9-9:1 mixt. of ethyl butyrate and benzyl formate, to which a smaller quantity of isoamyl formate may be added. This flavour formulation has sweet taste and masks the base odour satisfactorily. 19. 6. 76 as 072330 A61k-7/16 (4. 10. 79) SUNSTAR HAMIGAKI KK (3pp) (J52156939)

KAOS D21 18522Y/11 =J7 9031-048

Tooth paste contg. water soluble fluorides - with montmorillonite or hectorite of defined compsn. to prevent fluoride loss on storage

KURATA T 04.09 75-JA-107421

*B06 E37 (04.10.79) *DT2639-505 A61k-07/18*

Toothpaste contains 100-2000(300-1200)ppm (calculated as F) water-soluble F-contg. caries-preventing material and 0. 3-13 (1. 6) wt. % material consisting of either (a) montmorillonite or (b) hectorite, having well-defined compsns.

Montmorillonite contains, by wt. wrt anhydrous material, 60-70% SiO_2, 2-5% MgO, -02% Fe_2O_3, 20-30% Al_2O_3 2-5% Na_2O. Hectorite contains, by wt., wrt anhydrous material, 50-65% SiO_2, 2. 5-5% Na_2O, 0-2% Fe_2O_3, 20-30% MgO and 0. 6-2% Li_2O.

5% Montmorillonite contg. by wt. 64. 7% SiO_2, 25% Al_2O_3, 3. 9% MgO, 33% Na_2O, 1. 8% Fe_2O_3, 0. 8% CaO and 0. 1% K_2O, were added to toothpaste compsn. contg. 0. 7 wt. % Na monofluorophosphate. Concn. of water-soluble fluoride was reduced by 3% after 3 months storage at room temp. and by 11% after 3 months storage at 40°C. With montmorillonites outside of given range, losses in f de ion concn. exceeded 11% after 3 months at room and 24% after 3 months at 40°C. 4. 9. 75 as 107421 7/18 (4. 10. 79) KAO SOAP KK (5pp) (J52031840)

NIPQ D21 59204A/33 =J7 9

Liq. for printing or painting skin - comprises lower mono alcohol solvent contg. dissolved resin which is insoluble in esp. polyvinyl butyral

DAINIPPON PRINTING KK 17.12.76-JA-151678

*A96 G02 P75 (06.10.79) *J53077-711 B41m-03/12*

A printing liq. comprises (I) 3-7 wt. % (of the comps a resin which is insoluble or sparingly soluble in wat dissolved in a lower monohydric alcohol solvent, pre 0. 1-0. 6 wt. % of an agent which prevents skin roughn and pref. (III) a spraying agent. The liq. acts as an ing liq. for the dye, a protective liq. for the printed ern and removal of liq. for the pattern.

For body painting, a printing sheet having a patte drawn or printed with lower alcohol-soluble dye is of used. The compsn. is used with such a printing shee for body painting. Resin used in the compsn. is pref. polyvinylbutyral. Lower monohydric alcohol is e. g. alcohol contg. < 5% geraniol, etc. The concn. of re in the alcohol is 3-7%. The agent for preventing skin ghness is 0. 1-0. 6% antihistaminic agent such as diphe hydramine. For body painting with a printing sheet, liq. compsn. is applied to that part of skin to be print the patterned face of a printing sheet is pressed to tha part before drying the liq. and held for a few secs., a the sheet is removed. When the pattern on the skin is be removed, the liq. compsn. is applied onto the patte and can be wiped away by dewaxed cotton, cloth, etc. liq. compsn. applied to the pattern on the skin also pr tects the pattern from water, sea water, sweat, etc. liq. compsn. consists of e. g. 94. 45% geraniol-modifie ethanol, 5% polyvinylbutyral resin, 0. 2% diphenhydram ne and 0. 35% perfume. 17. 12. 76 as 151678 B41m-3/1 (6. 10. 79) DAINIPPON PRINTING KK (HORU-) (4pp) (J53077711)

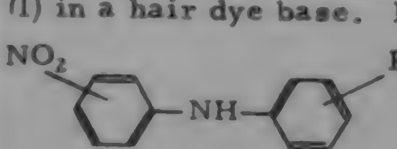
BRIM D21 47158V/26 =NL-161

Nitrodiphenylamine dye-based hair colouring prepns - are oran yellow-red and have good affinity for damaged hair and impro fastness to shampooing

BRISTOL MYERS CO 26.12.72-US-318293

*E24 (15.10.79) *BE-808-596 A61k-07/13 C09b-51*

Hair dye prepn. contains 0. 001-10wt. % nitrodiphenylam (I) in a hair dye base. In the formula, R is H, NH_2, NH Alkyl, NHHydroxyalkyl, NH-CO-alkyl, $N(alkyl)_2$, $N(hydroxyalkyl)_2$, N(alky (hydroxyalkyl), OH, OC Alkyl or alkyl. Pref. th dye is 4^1-hydroxy-2-nitrodiphenylamine, and the prepn. has pH 4-12. The prepn. is used for direct dyeing of h



(I)

Prepns. have better dyeing properties than those co di- or poly-nitro cpds. The dyes have a good affinity fo hair, esp. permed hair, and also have a good resistanc to shampooing. 21. 12. 73 as 017593. (14pp913)

ERIC/ D21 39436F/00 #NL-161-

Strengthening mineralised bone and tooth tissue

ERICSSON S Y (ERIC) 16.01.68-SW-000580 (21.04.69-NL-00611

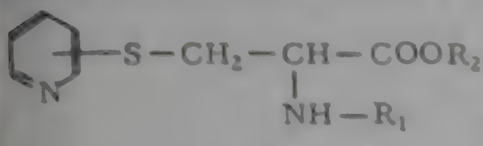
*B06 E34 (15.10.79) *DT1900-577 A61k-33/42*

Orally administered prepn. for strengthening bones and teeth comprises a mixt. of monofluorophosphate(s), wat soluble Ca complex(es) of organic acid(s) and organic m erial which forms a gel with water. The formulation co tains 20-100 Ca ions per molecule of monofluorophospha and an amt. of gelling material such that a soln. contg. 1 mg./ml. fluorine, has a viscosity > 50 times that of water.

The formulation, unlike certain prior art ones, does not ppte. CaF_2 which is then not reabsorbed, causes no irritation to the digestive system and has no toxicity pro lems. 21. 4. 69 as 006114. (6pp913)

OREA D21 19379S/11 =NL-161-746
Bactericidal fungicidal pyridine deriv for - treating dandruff and seborrhoea
L'OREAL SA 13.02.70-LU-060384 (04.09.69-LU-059405)
*B03 E13 (15.10.79) *DT2043-797 A61k-07 A61k-31/44 C07d-213/89 +A01n-09/12*

Novel cysteine derivs. are of formula (I):



(I)

in which the S-atom is bound in o- or p-position to the NO-gp.; R_1 and R_2 are H or metal-complexes; or R_2 is H; R_1 is COR_3 or SO_2R_3; R_3 is (1-4C)alkyl, phenyl, tolyl and its metal salts; or R_2 = (1-4C)alkyl; R_1 = H, COR_3 or SO_2R_3. (I) are in the form of the hydrochloride.

(I) have fungicidal-, bactericidal-, anti-scaling- and antiseborrhoea activity and may be used in pharmaceutical- and/or cosmetic prepns. They may be used in the treatment of acne; as deodorising prepns. for body hygiene, esp. female hygiene; in cosmetic prepns. against scales and seborrhoea, etc.

They are prepd. e.g. by reacting a halogen deriv. of pyridine N-oxide with cysteine or its derivs. 3.9.70 as 013073. (15pp279)

ODST= ★ D21 80382B/44 ★SU-646-991
Herbal mouth wash compsn. - contg. aq. alcohol extracts of herbs, ethanol, sorbite, menthol benzoate deriv. and water
ODESS STOMATOLOGY (NIKO=) 25.12.76-SU-433626
B05 (19.02.79) A61k-07/26

Mouthwash compsn. preventing tooth decay and having improved taste and cleansing characteristics comprises (in wt.%): aq. alcoholic extract of elder 2-3; aq. alcoholic extract of camomile 2-3; aq. alcoholic extract of oak 2-3; aq. alocholic extract of sage 2-3; aq. alcoholic extract of althea 20-30; ethyl alcohol 50-60; sorbite 2.5-3; menthol 0.0.2-0.03; Nipagin (ethyl- or methyl-p-hydroxy-benzoate) 0.04-0.05 and water the rest.

The plant alcoholic extracts are prepd. by extracting corresp. plants with 40% aq. alcohol soln. at 20°C for 3 days followed by filtration. The compsn. is obtd. by mixing the components.

Korotkova, E.A., Koren, V.N., Golubitskii, V.Z. et al.
Bul.6/15.2.79. 25.12.76 as 433626 (2pp938)

UYFL- D21 77620B/43 =US 4171-544
Inorganic dental or surgical implant - has surface of silica-rich or silica rich-forming material for bonding to bone tissue (NL 9.10.79)
UNIV OF FLORIDA 05.04.78-US-893792
*L02 +P31 P32 (23.10.79) *DT2910-335 A61f-01/24 +A61b-17/18 C03c-03/04*

Dental or surgical implant has a surface for bonding to the bone of the recipient, which comprises a biologically compatible glass, glass-ceramic or ceramic material compris-ing $\geqslant$ 80 (pref. $\geqslant$ 95) wt.% SiO_2 and having a specific sur-face area of $\geqslant$ 80 m^2/g, a porosity of 10-50 vol.% and an average pore dia. of 20-300 Å. Pref. the material contains $<$1 wt.% Ca and $<$0.1 wt.% P. Additionally, the material contains up to 20 wt.% B oxide.

The implant forms strong bonds with bone tissue via direct chemical bonds. Problems of toxicity, loosening and reactively in vivo are obviated. 5.4.78 as 893792 (6pp982)

SYNT ★ D21 80701B/44 ★US 4171-952
Mutagen-free oxidative black hair dye - contg. 1,5-di:hydroxyl-naphthalene, 4,4'-di:amino di:phenylamine, and p-amino-di:phenylamine
SYNTEX (USA) INC 03.08.78-US-930833
E24 (23.10.79) A61k-07/13

A compsn. for dyeing keratinous fibres black contains 1.5 -4.0 pts. 1,5-dihydroxynaphthalene, 0.5-2.5 pts. 4,4'-di-aminodiphenylamine or an acid addition salt of it 0.1-2.0 pts. p-aminodiphenylamine or an acid addn. salt of it, 0.5 -10 pts. of a modifier, 0.1-10 pts. of a suitable coupler, and sufficient of a carrier to make 100 pts. all pts. by wt.

The compsn. is esp. useful for human hair. It is free of mutagenic phenylene diamines, 2,4-diaminoanisole or nitro cpds. 3.8.78 as 930833 (5pp955)

SBEC D21 33050V/18 =US 4172-113
Lipstick packing machine - using vertical hot air jets to prevent cooling voids at base of cast lipstick
SEBEC SA (WEBS) 17.10.72-GB-047788
*+P24 Q31 (23.10.79) *DT2352-175 B29c-05 +B29c-25*

To suppress piping in solidifying cosmetic, e.g. lipstick, cast into a line of spaced moulds each with a restricted top opening, the moulds are moved successively intermittently below a line of spaced vertically downward heated air jets, dwelling with the openings axially aligned with the jets.

The jets heat the top of the cosmetic without heating the mould and delay its solidification while cooling and setting of the entire sticks is more rapid than when heating the entire stick to prevent piping. 13.10.77 as 841904 (15.10.73-US-406381) (4pp1358)

DOWC ★ D21 80772B/44 ★US 4172-121
Dentifrice in a liq. vehicle - contg. fumed silica with sorbed fluoride
DOW CHEMICAL CO 21.08.78-US-935427
B06 (23.10.79) A61k-07/18

A dentifrice compsn. contains in a liquid vehicle about 4-7 wt.% of fumed silica having about 1-5 wt.% of fluoride sor-bed on it. The amt. of free fluoride in the compsn. is about 800-1200 ppm.

The silica with the fluoride sorbed on it serves as a gelling or thickening agent and also serves as a fluoride source. Other ingredients in the compsn. are conventional. The liquid vehicle is generally aq. and it may also contain other water-soluble liquids. 21.8.78 as 935427 (3pp476)

MINN D21 14474B/08 =US 4172-122
Sun protection compsns. - based on a UV-absorbing acrylate polymer in a cosmetic oil base
MINNESOTA MINING CO 29.07.77-US-820122
*A96 (A14) (23.10.79) *DT2833-711 A61k-07*

Dermally-nonirritating sun-screening compsn. comprises (i) a non-volatile, cosmetically-acceptable oil base, (ii) $\geqslant$1 UV absorbing material which is water-insoluble and soluble in the oil base, and (iii) $\geqslant$ 0.5 wt.% based on wt. of the oil of a water-insoluble acrylate polymer having a solubility parameter of 6-10 $(cal/cc)^{\frac{1}{2}}$ in poorly hydrogen bonding solvents and a Brookfield viscosity of 50-100,000 cps. when measured at 16.6% non-volatiles.

Pref. the polymer is derived from monomers of formula $R^3CH=C(R^2)CO_2R^1$ (where R^1 is 1-18C alkyl, R^2 is H, methyl or $-CH_2CO_2H$ and R^3 is H, $-CO_2H$ or $-CO_2R^1$) and opt. contains $\leqslant$ 50 mole % of acid monomers of formula $R^4CH=C(R^5)CO_2H$ (where R^4 is H or CO_2H and R^5 is H or $-CH_2CO_2H$).

The acrylate polymer serves to bind the UV absorber to the skin and render it resistant to removal by water. 29.7.77 as 820122 (12pp924)

ZINI D21 00178S/01 =US 4172-123
Odour binding fungicidal salts of unsaturated - hydroxylated carboxylic acids
GRILLO WERKE AG 19.07.68-DT-792074
*E12 (23.10.79) *DL--76-578 A61k-07/36*

Non-body odoriferous location is deodorised by contacting the location with a Zn salt of a 17-21 (17-19)C unsatd. hydroxy-carboxylic acid. Specifically the acid is ricinoleic acid or dihydroxyoctadecene acid, and the Zn ricinoleate is present in a compsn. contg. Mg ricinoleate.

Specifically the compsn. further contains a partially hydrogenated phenanthrene deriv. in an amt. effective to affect the odour suppressing action of the Zn salt. The phenanthrene deriv. is a salt of a carboxylic acid of a diterpene. Various synergistic agents, antioxidants and reinforcing agents may be included. 25.5.76 as 690204 (+16.7.69, 13.4.73, 10.4.76 - US - 842364, 351058, 351058, 459814)(10pp924)

THIE/ ★ D21 80774B/44 ★US 4172-128
Regenerated tooth and bone for implants - contg. inert substitute for muco:polysaccharide to avoid tissue rejection
THIELE H 12.05.77-US-796122 (03.10.66-US-583989)
(23.10.79) A61k-35/32

Reconstituted bone or tooth material is prepd. by (a) completely demineralising ground bone or tooth using an agent which does not affect collagen, (b) treating the residue with a swelling agent which also does not damage collagen; (c) removing mucopolysaccharides foreign to the human body from the swollen material; (d) dissolving the residue in a suitable solvent to form a colloidal sol; (e) adding a physco-logically inert mucopolysaccharide or polyuronic acid which causes orientation of the collagen molecules on gel formation, and (f) allowing hydrogen or polyvalent metal ions to diffuse into the soln., forming a gel of oriented filiform collagen molecules with capillaries running through it.

The compsn. is useful for filling teeth, making a ial teeth, and as bone splints, bridging elements or It is not rejected by the body. 12.5.77 as 796122 (+ 26.3.73, 5.5.75 - US - 057332, 344577, 574648)(9pp

See Also

D13 PT 29240
D22 US 4172094
D25 J5 4122224
D16 EP ---5030
D23 EP ---4978
D18 EP ---
D25 J5 4120

D22: BANDAGES; DRESSINGS

PERS ★ D22 79123B/44 ★BE -875-942
Catamenial tampon with increased absorptive capacity - has sealing lines impermeable to fluid bonding impermeable film to envelope
PERSONAL PRODUCTS CO 28.04.78-US-901178
P32 (29.10.79) A61f

An absorbent hygienic pad, is oblong and flat. A rectangular envelope permeable to menstrual fluids encloses the pad with its long edges overlapping the face contacting the garments. A film which is impermeable to fluids is held between the envelope and the pad. It extends longitudinally on the pad and covers the face in contact with the garments and at least the long edges of the pad.

Two or four sealing lines impermeable to the menstrual fluids extend along the pad and seal the edges of the impermeable film to the envelope, so that the liquids are prevented from passing from the pad, in the region between the envelope and the impermeable film.

The arrangement prevents lateral leakage without, irritating of the skin. 27.4.79 as 875942 (18pp1014)

OREA D22 28807U/20 =DS 1914-822
Skin protective compsn - prevents inflammation, etc due to toxic chemicals
L'OREAL SA (JOE /) 22.03.69-DT-914822
*B02 E13 P34 (25.10.79) *J73007-775 +A61k-31/22 A61l-13*

Pharmaceutical compsn. for external application in the treatment of prevention of irritation, inflammation or excessive sensitivity, contains an aldehyde, methylol deriv., at least one purine deriv. such as caffeine, theophyllin, theobromin or aminophyllin, (0.1-10 wt.%) and uric acid, dispersed with the usual additives and/or diluents. 22.3.69 as 914822 Add to 1767165 (2pp047)

MONT D22 23167U/17 =DS 2248-813
Wound dressing - consisting of hydrophilic polyurethane foam with partly collapsed cells
MONTEDISON PHARM LT (LOC /) 05.10.71-GB-046252
*A32 P34 +P73 (A25 A96) (25.10.79) *DT2248-813 A61l-15/**

A bandage is made from elastic nonstructured polyurethane foam with one or both surfaces have some but not all the cells collapsed irreversibly. The foam is pref. based on polyethers. The collapsed surface layer pref. is up to 5mm thick. The foam pref. contains an antibacterial or antiseptic agent.

The collapsed surface may be made by simultaneously applying heat and pressure, e.g. 149-232°C and 3.43-6.86 bar. 5.10.72 as 248813 (6pp068)

ALLR D22 24545W/15 =DS 2436-905
Sterilising soft contact lenses - in isotonic solns contg. alkyl trialkanol ammonium chloride and decontaminants
ALLERGAN PHARM INC 24.09.73-US-399692
*A96 E16 P34 +R21 (A11 A14 A89) (25.10.79) *DT2436-905 A61l-13*

Sterile isotonic aq. prepns. for the sterilisation of plastic contact lenses contain quat. ammonium cpds. of formula $RN^+(R_1OH)(R_2OH)(R_1OH)$, (0.01-1wt/vol.%) as the active bactericide (where R is 12-20C alkenyl or alkyl; and R_{1-1} are each 1-3C alkylene) and inert surfactant such as ethylene oxide condensates with sorbitan fatty acid esters or higher alcohols, PVP, PVA, hydroxypropylmethylcellulose, water-soluble poly(hydroxyethyl methylate) or CMC (0.01-2 wt./vol.%).

Pref. bactericides are cpds. of formula $C_{17}H_{33}$ or $_{33}N^+(C_2H_4OH)_3$, (0.03-1 wt./vol.%); and pref. surfactan are condensates of ethylene oxide, (20 moles), with so bitan monooleate, (1 mole), and/or cetyl alcohol, or po (hydroxyethyl methacrylate) with $M_r=(6-70).10^4$. Other additives, inert diluents and/or carriers may also be present. 31.7.74 as 436905 (7pp047)

PAPC D22 80500W/49 =DS 2519
Bulked absorbent napkin insert - formed by meshes in two laye increase production speeds of disposables
PAPER CONVERTING MA 16.05.74-US-470535
*F04 +P21 P27 P73 (25.10.79) *DT2519-131 D04h-01 +A 13/02 A47g-09 B32b-23/10*

Double-layer fluff inserts for absorbent articles, e.g. napkins, are produced by depositing the two fluff layers on separate endless belt screens, as the cellulose shre leave the hammer mills.

After deposition on inclined sections by gravity and vacuum, the first fluff layer is removed by the vacuum applied to a back-up roll and turned through 180° so tha its screen side lies in contact with a carrier web which consists of an air-permeable material. The second fluf layer is laid on the first so that its screen side remains on the outside of the combined strand.

The more densely packed fibres of the fluff layers w now form the outsides of the double layer result in grea mechanical strength and a better distribution of its abso bent properties. Less power is required for the prodn. and the output rate is higher. 29.4.75 as 519131 (8pp39)

BADI D22 88359Y/50 =DS 2622-
Fungicidal and insecticidal wood preservatives - contg. boric ac alkylene oxide addn. prods.
BASF AG 18.05.76-DT-622028
*C01 E12 F09 P63 (25.10.79) *DT2622-028 B27k-03/34*

Insecticidal and fungicidal wood protective coating conta boric acid/alkene oxide condensate at the active components. Prepn. of these condensate comprises heating H_3B (1 mole), with 1-8C alkene oxide, (1-5 moles), in an aprotic organic solvents at 100-160°, or in the presenc of a Lewis acid or base catalyst at 70-120°, at 4-9 atm.

The prods. are applied by painting, dipping, sprayin or impregnating wood with solutions of these condensate 18.5.76 as 622028 (5pp047)

CHEM ★ D22 79187B/44 ★DS 2838-
Aq. wood preservative contg. oxidatively drying polybutadie binders - for durable protection
CHEM WERKE HULS AG 07.09.78-DT 838930
A82 C03 F09 P63 (A12) (25.10.79) B27k-03/52 B27k-05 C0 03/74

The organic binder has been rendered soluble with acids, and the prepn. contains usual additives, e.g. water-soluble insecticides and/or fungicides, used for wood protection.

The organic binder contains a low mol. wt. 1,3-butadiene polymer carrying amino gps. and the binder contai (1) an amt. of double bonds corresponding to an I_2 value at least 200 (g. I_2/100g) of which at least 100 double bonds measured as I_2 value, correspond to the cis-1,4-structur the 1:3-butadiene polymer and (2) an amt. of amino gps xpressed as at least 50mg atom N/100g binder; (3) the 3-butadiene polymer contains at least 70 mol % butadiene nits and has a mol. wt. of 500-6000. 7. 9. 78 as 838930(6pp)

ERZ/ ★ D22 79213B/44 ★DT 2816-063

terilisation chamber lid closure - by hand-wheel turning wedging evers between flanged recess and lid

HERZ H 13.04.78-DT-816063
P34 (25.10.79) A61l-03 B01j-03/04

A pressurised treatment chamber esp. for sterilisation lant, is closed by a lid which is pressed against a sealing strip around the chamber opening. Several thrust levers are wedged between the recess of a flange and the outside rim of the lid. The pressure to the levers is applied by a handwheel which can be screwed up on a central boss of the lid and moves the inside ends of the thrust levers in ball Joints attached to the outer race of a double-row self-aligning ball bearing.

This ensures that all areas of the lid periphery are pressed with the same force against the seal ring and that only little force is needed to tighten the lid. 13.4.78 as 816063 (14pp39)

SCHU ★ D22 79278B/44 ★DT 2817-858

Stable mixt. forming antimicrobially active percarboxylic acid - contains hydrogen peroxide generator and acyloxy sulphonic acid deriv.

SCHULKE & MAYR GMBH 24.04.78-DT-817858
E19 P34 (25.10.79) A61l-13

Storage-stable mixt. forming an aq. soln. having high antimicrobial activity contains an H_2O_2-generator (I) and an acyloxysulphonic acid cpd. having formula $(RCOO)n-A-(SO_3x)m$ (II) where A is (a) an opt. branched aliphatic 1-18C gp. contg. 0-2 double bonds and 1-14 atoms between adjacent double bonds, or (b) a 1-3 ring 1-18 C cycloaliphatic gp. contg. 5-12 ring-C, 0-2 double bonds and 1-5 atoms between adjacent double bonds, or (c) a 1-3 ring 5-18C aromatic gp. having a 5-7 C atom ring-size, or (d) a 1-3 ring heterocyclic gp. contg. 5-7 ring atoms and 1-5 heteroatoms of which 0-2 are 0, 0-2S and 0-5N.

The carbon chains in the cycloaliphatic gps. may be interrupted by 0 atoms. In the (hetero)aromatic gps., the aromatic ring may be substd. by 1-3 1-12C alkyl gps. R is (i) an opt. branched or 1- or 2-ring cyclic 1-12C alkyl gp. contg. 0-2 double bonds, in which the C-chain may be interrupted by 0, or (ii) a 1- to 2-ring 5-12C aryl gp. having ring size 5-7 atoms and contg. 0-2 0-, N- or S-heteroatoms. Up to 4 H atoms in the (a) - (d) gps. of (A) and up to 3H atoms in the alkyl or aryl gps. of R may be substd. by the same or different substituents: OH, NH_2, COOH, F, Cl, Br, I, CN, NO_2, O-alkyl, NH-alkyl, COO-alkyl, 0-aryl, NH-aryl, COO-aryl, S-alkyl, $N(alkyl)_2$, $CONH_2$, S-aryl, NH-aralkyl, CONH-alkyl, SO_2-alkyl, NH-acyl, $CON(Alkyl)_2$, SO_2-aryl, $N(acyl)_2$ and/or COO-acyl. X is H, alkali, alkaline earth, opt. mono-, di-, tri- or tetra-alkyl-substd. NH_4; n and m are integers 1-3 and m+n is 2-6.

The mixt. contg. solns. are used for disinfecting and cleaning instruments, articles, walls and floors in hospitals, surgeries, veterinary surgeries, homes and offices. 24.4.78 as 817858 (25pp200)

HERZ/ ★ D22 79281B/44 ★DT 2817-960

Portable steam sterilisation plant - with integral boilers for low pressure sterilisation and high pressure ejector steam

HERTZ H 24.04.78-DT-817960
P34 (25.10.79) A61l-03

Tools and textile fabrics are sterilized in a sterilization chamber which is evacuated, filled with saturated steam, relieved of pressure and evacuated once more. The evacu-ation is carried out with the help of a steam ejector which receives stem with a pressure far above the saturated steam pressure. A side stream of this steam is passed through a pressure reducing valve for use as sterilization steam in the chamber.

This plant has a low weight and is ideally suitable for mobil applications. It uses little water and achieves good sterilization and drying efficiencies. 24.4.78 as 817960 (26pp39)

MITR ★ D22 79296B/44 ★DT 2911-076

Water-absorbent fabric product - is a compressed cellulose fibre nonwoven which can reassert its shape on absorbing water

MITSUBISHI RAYON KK 13.04.78-JA-043579
F04 P34 (25.10.79) A61l-15 D04h-01

In the manufacture of a water-absorbent cloth material, for use with water at any temperature for heating or cooling on picnics and while travelling, a non-woven fabric is taken of cellulose fibre free of any bonding agent. It is inserted into a mould of the required shape and compressed at a pressure of 107.9-147.1 MFa, pref. at 117.7-127.5 MPa. The material reasserts to its original shape when it absorbs water.

The material is dense and occupies little volume, for easy carrying, until hot or cold water is applied according to season and application. The material then reasserts itself to its original shape as it soaks in the water. 21.3.79 as 911076 (11pp249)

ANDE/ ★ D22 79314B/44 ★DT 2914-386

Deodorising, disinfectant, liq.-absorbing article - e.g. wound-dressing, contains internal layers of material generating oxygen on wetting

ANDERSSON B A E 28.08.78-SW-009038 (13.04.78-SW-004195)
E19 P32 (25.10.79) A61f-13/18

Layers of a material, (I) which generates oxygen on wetting, are embedded, away from surface, inside a deodorising, disinfectant, liq. absorbing article. (I) may be an inorganic or organic peroxide, perborate, percarbonate or persulphate, esp. an alkyl-, aryl-, alkyl-aryl- or urea-peroxide.

The articles may be catamenial tampons, nappies, wound-dressings, bandages, adhesive tapes, inserts, e.g. for shoes, and sweat shields. Smell can be prevented without irritating the skin. Bacteria and fungus generation is prevented. The absorbed blood and secretions are disinfected. (I) also have a cooling effect. 10.4.79 as 914386 (43pp200)

PROC ★ D22 79420B/44 ★EP ---4-991

Cleaning and disinfecting flushing toilet - with separate dispensers for dissolving surfactant cake and solid disinfectant in water

PROCTER & GAMBLE CO 18.04.78-US-897479
P34 Q42 (31.10.79) A61l-03 E03d-09/03
D/S: E(BE, DT, FR, GB, IT, NL).

A method for cleaning and disinfecting a flushing toilet each time the toilet is flushed comprises forming a surfactant-containing solution by exposing a solid cake of surfactant to water in a first passive dispensing apparatus immersed in the toilet tank. The cake and solution are isolated from the surrounding water.

Similarly a solid disinfectant is dissolved in water in a second passive, immersed, dispensing apparatus, the solution being isolated from the surrounding water.

On flushing the toilet the water level drops in the tank and predetermined quantities of the surfactant-containing solution and disinfectant-containing solution are discharged into the tank in response to the change in water level.

The method is simple to carry out, is economical and reliable. The product dispensers used are sized relative to each other so that the product components are consumed at the same time to minimize wastage.

9.4.79 as 200173 (37pp295).
(E) ISR: EP---1671; US3444566; US3061842; US4064572; DT1925853.

COMS ★ D22 79471B/44 ★EP ---5-103

Air conditioning system for greenhouse - also produces soft water from hard water heated by optical filter trapping solar energy

COMMISS ENERGIE ATOMIQUE (INRG) 13.04.78-FR-010910
P13 Q74 (D15) (31.10.79) A01g-09/24 C02b-01/06 F24j-03/02
Full Patentees: Commissariat a l'Energie Atomique; Institute National de la Recherche Agronomique.
D/S: E(DT, GB, IT, NL).

The greenhouse is used for growing plants for which only a selected range of wavelengths of solar radiation is useful. During daylight hours, optical filters which pass only the selected wavelengths are positioned between the plants and the radiation. Hard water is film-flowed over the filter surfaces to pick up heat resulting from solar energy absorbed by the filters. The resulting hot water is stored.

At night, the greenhouse is warmed by returning the hot water to vaporise in the greenhouse. Some of the vapour condenses on cold wall surfaces of the greenhouse. The condensate is collected as soft water for use in irrigation of the plants etc.

The optical filters pref. pivot to 'fold up' at night to facilitate vapour rising to the cold wall of the greenhouse.

The arrangement is used for air conditioning a greenhouse 24 hours a day. Daytime overheating by solar radiation is prevented and absorbed heat is recycled overnight.

Hard water, partic. seawater or other normally unusable water, is used as the heat transfer and heat storage fluid. At the same time, the water is purified and made suitable for feeding to plants etc.
10.4.79 as 400232 (28pp448).
(F)ISR: DT1632943; FR1168575; FR2345068.

MINN ★ D22 79535B/44 ★GB 2019-221
Control of bleeding of internal mammalian lesions - by using endoscope for examination and for delivery of polymerising adhesive
MINNESOTA MINING CO 17.03.78-US-887487
A96 B07 G03 P34 (A14 A81) (31.10.79) A61m-11

Bleeding of internal mammalian lesions is controlled with an adhesive. An endoscope comprising a control section and a cannula having a distal end, a proximal end and an interior channel(s) connecting the ends of the cannula is used. The cannula of the endoscope is positioned in the mammal so that the distal end is directed towards the lesion. Then the lesion is sprayed with a rapidly polymerising adhesive to form a film over the lesion, the spray being introduced through a channel in the cannula.

Surgical invasion of the body is avoided in treating wounds, esp. gastric ulcers where surgical risk is increased. The usual poor visual examination of the wrinkled and folded mucosal surfaces and complicated diagnostic and treatment procedures are avoided. 16. 3. 78 as 009362 (8pp1248)

MINN ★ D22 79544B/44 ★GB 2019-248
Tacky, pressure-sensitive adhesive tape - having an outer adhesive stratum softer than the one immediately below it
MINNESOTA MINING CO 19.04.78-US-897852
A81 G03 (A14 A96) (31.10.79) C09j-07/02

A normally tacky and pressure-sensitive adhesive tape has a layer comprising superposed, firmly united strata of the same general class of adhesive, the exposed stratum having a 10 sec. shear creep compliance $\geqslant 3.5 \times 10^{-6}$ cm^2/dyne and the immediately underlying stratum having a 10 sec. shear creep compliance $\leqslant 2.5 \times 10^{-6}$ cm^2/dyne. Pref. used is a rubber resin or acrylate compsn. e. g. comprising an isooctyl acrylate-acrylic acid copolymer, for the adhesive strata.

The tape is partic. useful for diaper closures and identification labels for washing garments. The tape conforms well, adheres quickly to irregular substrates and also possesses good shear adhesion performance (normally mutually exclusive). 18.4.79 as 013407 (10pp558)

NICH- ★ D22 79668B/44 ★J5 4120-698
Water-absorbent polysaccharide based graft copolymers - used to make sanitary towels or napkins, or in gardening or construction
NICHIDEN KAGAKU KK 13.03.78-JA-028464
A11 (19.09.79) C08f-02 C08f-212/08 C08f-251

Prepn. of a graft copolymer consisting mainly of a polysaccharide involves converting the polysaccharide to a maleic acid semiester, and graft copolymerising it with a styrene (deriv)., and opt. a polymerisable monomer. Highly gelated water absorptive materials for making sanitary napkins or diapers, or for gardening or civil construction purposes are obtd.

The polysaccharide is pref. graft copolymerised with styrene and maleic anhydride. The maleic acid semiester polysaccharide has a degree of substitution of 0.01-3.00, pref. 0.03-0.20. The reaction is performed in one or more solvents selected from DMSO, formamide, DMF, acetone, THF, acetonitrile, dimethylacetamide, tetramethylsulphone, nitrobenzene and water. The polym
tion may be initiated by benzoyl peroxide, acetyl pe
lauroyl peroxide, ammonium persulphate, azobutyro
trile, hydrogen peroxide-Fe^{2+} salt, persulphate-NaH
or benzoyl peroxide-dimethyl-aniline. The graft cop
mer is easily hydrolysable. 13. 3. 78. as 028464 (4pp

FUJI- ★ D22 79958B/44 ★J5 41
Tar preparation for medical uses - obtd. by subjecting m
vegetable or animal tar, to diazotisation, opt. follow
hydrolysis
FUJINAGA SEIYAKU KK 16.03.78-JA-029245
B04 H08 (22.09.79) A61k-35/04

Improved tar prepn. for pharmaceuticals contains as
effective component a substance obtd. by subjecting
mineral, animal or vegetable tar or tar obtd. by dist
under reduced pressure thereof to diazotisation. The
diazotised prod. is opt. hydrolysed.

The tar prepn. has excellent antibacterial, antiinfl
matory , anti-itch or astringent action and the prepn.
useful for treatment of dermatopathia, partic. acute
and chronic eczema, eczema zebarrhoicum pruritus,
burns, abscesses or trichophytia etc.

Unpleasant impurities such as carinogenic or muta
inducing substances are converted simply and effectiv
into safe substance without damage on pharmacologica
effect and colour and odour of tar prepn. may be redu
strikingly. 16. 3. 78. as 029245 (3pp)

EISA ★ D22 79965B/44 ★J5 4122
Bactericidal disinfectant material - comprises cellulose ac
fibrous cloth contg. absorbed bactericide, e.g. acrinol
EISAI KK (FUJM) 15.03.78-JA-028654
A96 (22.09.79) A61k-09/70

The material is prepd. by allowing a fibrous material,
comprising cellulose acetate fibre opt. mixed with oth
fibres, absorb bactericides for external application, a
opt. subjecting the material to dry processing. Typica
bactericides are benzalkonium chloride, benetonium
chloride, polyoctylpolyaminoethylglycine and acrinol.

Pref. the cellulose acetate fibre has a degree of ace
lation of 38-45%; and the material is a mixt. of cellulo
acetate and cellulose fibres. Pref. the fibre material i
cotton-like or cloth-like. 15. 3. 78. as 028654 (4pp69)

KOBA/ ★ D22 79967B/44 ★J5 4122
Prodn. of poultice - by mixing wetting agent, antiallergic agent
adhesive with colloid liq. base prepd. from aluminium cpd.
CMC sodium salt aq. soln.
KOBAYASHI K 13.03.78-JA-028381
A96 (A11) (22.09.79) A61k-09/06

Poultice is prepd. by admixing wetting agent, stimulan
antiallergic agent and adhesive agent with colloid liquor
base obtd. by adding Al cpd. aq. soln. to CMC Na salt
soln. with stirring.

Poultice has a large water content, little ageing char
long term stability, good water retention, dimensional
stability and adhesiveness and a large heat resistance.
In an example, CMC Na salt (4%) was dispersed in glycerine (5%) homogeneously, water (67.7%) was added to
prepare aq. soln. Mixt. of dispersion of $Al(OH)_3$ (1%) in
glycerine (10%) and aq. soln. of Al sulphate (0.5%) in
water (10%) was dropped down into the above soln. with
stirring and blended to give colloid liquor. Stimulantia
comprising 0.3% of methyl salitylate 0.3% of l-menthol
0.3% of dl-camphor and 0.3% of thymol, diphenhydrami
(0.1%) and PVA (0.5%) were added. 13.3.78. as 028381
(2pp69)

UNIC D22 24817S/14 =NL 161-
Stabilisation of polyalkylene oxide for - disposable tampons
UNION CARBIDE CORP 06.10.69-US-864193
*A25 P32 + P34 (A26 A97) (15.10.79) *BE-757-060 + A61l-15*

Absorbent article for once-only use has >1 crosslinke
hydrophilic polymer (I) $R_1O\{CR_3R_4-CR_5R_6-O\}_nR_2$ (I
of substd. epoxyethane, which has terminal H atoms, al
gps. and/or alkyl-substd. aryl gps. The polymer is mi
ed with 0.01-50wt.% polyethyleneimine of mol. wt. 10^4
In the formula, R_1 and R_2 are H, alkyl or alkyl-substd.
aryl; R_{3-6} are H, methyl, phenyl or vinyl; and n is >1

Polymer (I), unlike some prior art, is not broken down y O_2 and retains a high absorption capacity. 5.10.70 as 014602. (12pp913)

OHJ D22 06893W/04 #SU-645-526
Surgical facial masks prodn. - from thermoplastic filaments aligned perpendicular to direction of air flow
JOHNSON & JOHNSON 31.12.73-PT-061129
*A96 F07 P34 + P31 P32 P35 (30.01 79) *PT 61-129 A61f-13/12*

Improved air permeability and maintenance of filtration capacity of the face mask are ensured by using filter of non-woven material. The latter is formed from thermoplastic fibres, pref. polyethylene terephthalate, with a diameter of 14-20 µ. The fibres are set perpendicularly to the air flow, leaving 85% of voids.
Bird, W. Bul. 4/30.1.79. 27.12.74 as 997532 (3pp89)

BUCY ★ D22 80663B/44 ★US 4171-542
Disposable surgical gown - with slits in front for access to hand support pocket formed by peripherally secured internal bib
BUCKEYE CELLULOSE CORP 05.06.78-US-912333
F07 P21 (23.10.79) A41d-13

Gown has sleeves, sides which overlap and fasten at the back, and a bib peripherally fixed to the inside surface of the chest region which has a pair of spaced vertical slits communicating with the bib interior so that the bib provides a sterile hand support pocket keeping the users hands in the aseptic zone bounded by neck, shoulders and waist.

The gown is pref. of nonwoven material and the bib may be of the same material, a fluid-impervious film or a nonwoven material-film laminate. The bib may also provide a belt tunnel in which a wrap-around belt can be attached and stored and which allows for vertical adjustment of the belt. 5.6.78 as 912333 (8pp1358)

WEIK/ D22 68492B/38 =US 4171-604
Retaining asepsis of a sterile web of bags during filling - by enclosing filling pipe with sterilising boot which is in turn attached to bag web
WEIKERT R J (GEFI-) 15.03.78-US-886921
*Q31 + P34 (23.10.79) *EP---4-203 B65b-55/04*

A web of bags is kept sterile as it is fed onto a filling pipe by sterilising the pipe, attaching the leading end of a web to a pipe enclosure at a point adjacent the pipe upstream end, sterilising facing exterior surfaces of adjacent walls of the enclosure and the web at the point of attachment, and puncturing the adjacent walls with the pipe upstream end to position it within the web.

The pipe upstream end is pref. pointed, and sterile fluid is blown into the web at the point of puncture to facilitate separation of its opposing walls, the fluid also being blown through openings along the pipe to facilitate movement of the web along the pipe. 15.3.78 as 886921 (6pp1358)

BECT ★ D22 80707B/44 ★US 4171-962
Medical air filter in transparent housing - with conductive end connectors joined by winged axial conductor also locating filter element
BECTON DICKINSON CO 19.05.78-US-907841 (23.03.76-US-669622)
B07 (23.10.79) B01d-46

A filter for anesthesiology and respiratory air systems has a filter element in an electrically non-conductive transparent tubular housing with a conductive connector mounted to a reduced tip and a conductive end cap on the opposite end with a projecting connecting tube.

A conductive post has a stop at each end snap-fitting with inwardly extending webs from the connector and cap to form a conductive path between them, or a conductive strip may extend between the two on the outer surface of the housing. The post is profiled to retain the element in position. 19.5.78 as 907841 Div. ex 4063913, 4133656 (+ 2.2.77 - US - 765111)(11pp1358)

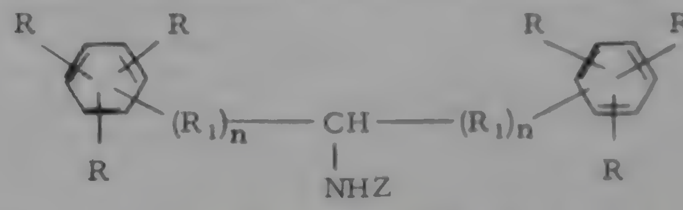
DOWC ★ D22 80751B/44 ★US 4172-066
Discrete, spheroidal microgel compsn. for thickening aq. dispersions - comprising a water-swellable crosslinked olefin polymer
DOW CHEMICAL CO 26.09.77-US-836875 (21.06.74-US-481598)
A14 F06 H01 (A82 A96 A97 F09) (23.10.79) C08l-03/30 C08l-33/26 C08l-41

A compsn. comprises discrete, spheroidal microgels (dia. in the dry state < 20 micrometers) of a water-swellable polymer of water-soluble ethylenically unsatd. monomers. The polymer is sufficiently crosslinked to enable the microgels to remain as discrete, spheroidal particles of dia. 0.5-200 micrometers when dispersed in an aq. fluid.

The compsn. can be used as a thickening agent for aq. dispersions and for reducing the permeability of porous structures. It is resistant to viscosity degradation in aq. media under high shear conditions. 26.9.77 as 836875 C.i.p. 4059552 (23.10.75 - US - 625297)(8pp558)

MERI ★ D22 80763B/44 ★US 4172-094
Di:phenyl-poly:amine(s) - useful as topical broad spectrum antimicrobials and algae inhibitors with low toxicity
MERCK & CO INC 03.12.76-US-747155
B05 C03 E14 (D21) (23.10.79) C07c-87/38

Diphenylpolyamine derivs. of formula (I) are new :



(I)

(each n is 1; R is H or lower alkyl; R_1 is 1-4C alkylene; Z is $-YNR_5R_6$; Y is $-R_2NR_3R_4-$ or R_2; R_2 is 2-hydroxy-1,3-trimethylene or 1-4C alkylene; R_3 is H, 1-4C alkyl, 2-4C aminoalkyl, 1-4C hydroxyalkyl or 2-4C dihydroxyalkyl; R_4 is 2-hydroxy-1,3-trimethylene or 1-4C alkylene; R_5 is H, aminoethyl, aminopropyl, 1-4C hydroxyalkyl or 2-4C dihydroxyalkyl; and R_6 is H, 1-4C hydroxyalkyl or 2-4C dihydroxyalkyl).

(I) are broad-spectrum antimicrobials and algae inhibitors with low toxicity, and they are esp. useful in topical prepns., including surgical scrubs, soaps and disinfectants and in cosmetic prepns. as preservatives. (I) can be used in metal working fluids, oil well drilling muds, secondary oil recovery waters and brines, aq. emulsions and dispersions, paints or coatings, pigments, adhesives, industrial waters, swimming pools, on plants and seeds, in oral rinses for inhibiting formation of dental plaque, e.g. at 50-1000 p.p.m. in a mouthwash, toothpaste or toothpowder 3.12.76 as 747155 (10pp1248)

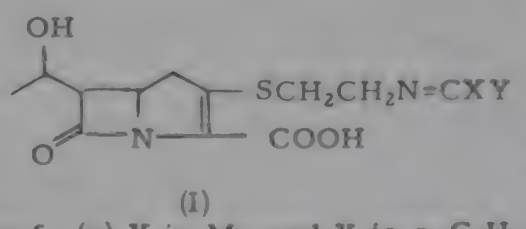
GLYC- ★ D22 80779B/44 ★US 4172-140
Antimicrobial compsn. for aq. systems - comprises formaldehyde prod. with 5,5-di:methyl hydantoin and complexing agent
GLYCO CHEMICALS 19.08.77-US-826265
C03 E13 H07 (E12) (23.10.79) A01n-09/22

Antimicrobial compsn. comprises a mixt. of (a) a condensn. prod. (I) of 5,5-dimethylhydantoin and CH_2O (mole ratio $\geqslant 1 : 1-2$) and (b) an alkali metal salt of EDTA or DTPA. The ratio of (a) : (b) is 0.25 : 1-20 : 1.

The antimicrobial activity of (I) is potentiated by component (b). The compsns. are relatively non-toxic and are suitable as preservatives in aq. systems such as metal working fluids, cutting oils, coolants, lubricants, rolling oils, drawing fluids, etc. 19.8.77 as 826265 (6pp1248)

MERI ★ D22 80781B/44 ★US 4172-144
Broad-spectrum antibacterial Schiff base derivs. of thienamycin - useful for therapeutic purposes, as preservatives, as disinfectants, in paints and in white water of paper-mills
MERCK & CO INC 19.05.78-US-907643 (21.11.75-US-634292)
B02 C02 F09 (23.10.79) A61k-31/40 C07d-487/04

Thienamycin derivs. of formula (I) and their salts are new:



(I)

(X and Y are H, 1-6C alkyl, 2-10C alkenyl, 2-6C alkynyl, 3-6C cycloalkyl, 4-12C cycloalkylalkyl, 6-10 C aryl or 7-16C aralkyl).

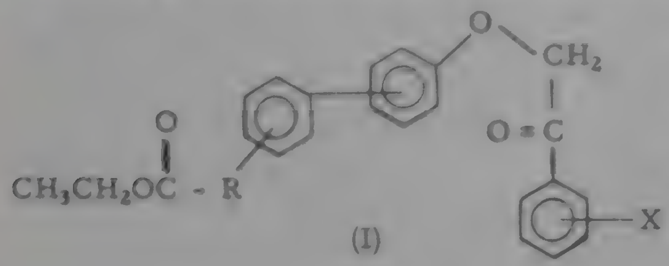
Pref. (a) X is Me and Y is $o-C_6H_4-OH$, $MeOCOCH_2$ or $EtOCOCH_2$ or (b) XY combined are a 3,3-dimethylcyclohexan-5-one ring residue. 19.5.78 as 907643 (+ 18.10.76 - US - 733656)(13pp1248)

RIKL ★ D22 80806B/44 ★US 4172-205

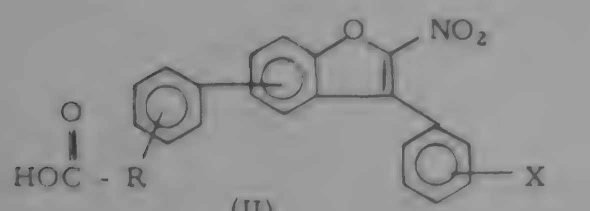
Phenyl-alkanoic acid derivs. - useful as intermediates for antimicrobial 2-nitro benzofuran cpds.

RIKER LABS INC 20.12.78-US-971426 (19.12.77-US-862013)

B02 C02 (23.10.79) C07c-69/76



(I)



(II)

New phenylalkanoic acid derivs. are of formula (I) (where R, pref. bonded to the 4-posn. of the ring, is 1-4C alkylene; and X is H, halogen or 1-3C alkyl or alk-oxy). The cpds. can be prepd. from the corresp. α-bromoacetopherones and hydroxyphenylphenylalkanoic acids, and are useful as intermediates in the prepn. of a
microbial substd. benzofurans of formula (II) and the
esp. salts, esters, amides and acyl halides, which ar
claimed in US 4143152.

The benzofuran cpds. are active against bacteria a
some are active against fungi and protozoa. They can
used for disinfecting and sterilising and as antibacteri
agents, the dose normally being < 100 mg/kg. 20. 12.
as 971426 Div. ex 4143152 (6pp990)

See Also

D13 EP ---4956 D15 GB 1554893 D25 US 41720

D23: OILS; FATS; WAXES

HENK D23 48224S/29 =DS 2030-529

Separating fatty acid mixtures

HENKEL KG AUF AKTIEN 20.06.70-DT-030529 (31.12.69-DT-965644)

*E17 (25.10.79) *NL7018-869 C07c-51/42*

A mixt. of 8-28C fatty acids of natural origin and contg. 0.8-15 wt. % of non-fatty organic associated material is sepd. into fractions of different m. pt. The fatty acid mixt. is converted into a dispersion of liq. and solid particles in an aq. soln. contg. electrolyte and surface active agent. This dispersion is sepd. in a completely jacketed centrifuge into a lighter liq. fatty acid phase and a heavier aq. suspension of fatty acid particles. The fatty acid particles are recovered and the aq. soln. recycled in part, 15-70 wt. % being removed and replaced by fresh soln. At least one of the fatty acid fractions obtd. is sepd. further by surfactant treatment and centrifugation 20. 6. 70 as 030529 Add to 1965644 (7pp068)

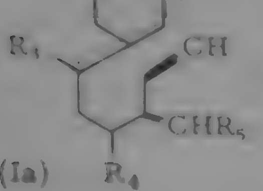
BADI D23 31041T/20 =DS 2052-781

Octadienine hydrocarbons - prepd by octeninol dehydration with copper sulphate

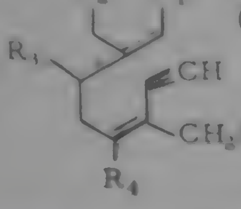
BASF AG 28.10.70-DT-052781

*E17 (25.10.79) *DT2052-781 C07c-11/28 + C07c-01/24*

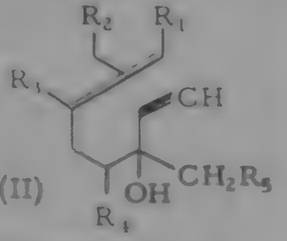
Prepn. of Octadienynes of formulae (I) and (Ia) is described. In the formulae the second double bond is represented



(Ia)



(I)



(II)

by the dotted line and R_1-R_5 are H or (un)satd. 1-10C hydrocarbon gps.

In the prepn. An octenynol of formula (II) is heated to 100-250°C in an inert organic solvent or diluent in presence of copper sulphate.

Octadienynes (I) (where R_1 is H, Methyl, $-CH_2-CH=C(CH_3).CH_3$ or $-CH_2-CH_2-C(=CH_2)-CH_3$, R_2 and R_3 are H or methyl and R_4 and R_5 are H), are new cpds. (I) are useful for terpene synthesis and perfumes. 28. 10. 70 as 052781 (4pp068)

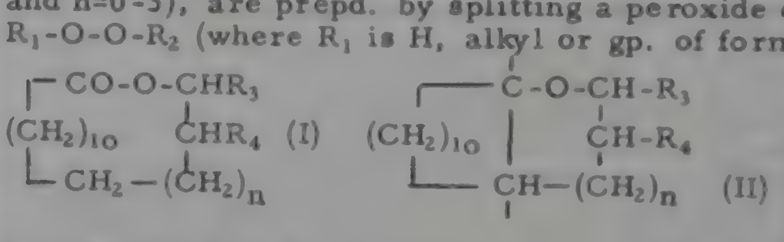
FIRM D23 47332V/26 =DS 2065-5

Lactones with musk-like odour for perfumery industry - prepd peroxide dissociation pref using reducing agents

FIRMENICH SA 27.05.70-DT-065551 (29.05.69-CH-008192)

*E15 (E14) (25.10.79) *DT2065-551 C11b-09 + C07d-313*

Lactones of formula (I) (where R_3 and R_4 are H or methy
and n=0-3), are prepd. by splitting a peroxide of formula
R_1-O-O-R_2 (where R_1 is H, alkyl or gp. of formula (II);



and R_2 is
gp. of
formula(I
provided
that if bot
R_1 and R_2
are gp. (II) then the gps (II) are identical) with an alkali sulphite, and alkali hydrogen sulphite or iron ions at 20-60°C. Any unsatd. lactone present with cpd. (I) in the prod. is hydrogenated catalytically. (I) are useful in the perfume industry. 27. 5. 70 as 065551 Div ex 2026056 (5pp

STAL ★ D23 79365B/44 ★EP —4-84

Highly water-dispersible lecithin prepn. from oil:seed - by ternar hydrocarbon-alkanol-water extraction, and azeotropic distn. c water then solvents

STALEY A E MFG CO 19.04.78-US-897969

E11 (31.10.79) A23j-07 C07f-09/10 C11b-01/10

D/S: E(BE, DT, FR, GB, NL).

Prepn. of oilseed comprises solvent extraction with a ternary solvent system contg. an oleophilic hydrocarbon (I), a lower alkanol (II) (miscible with (I) and H_2O), and H_2O to produce as one of the extracted materials a full miscella contg. crude oil, phosphatides, and the ternary solvents. The full miscella are sepd. into 2 layers and the sepd. upper phase (contg. crude oil, phosphatides, and solvent mixt. with ratios at least equal to the ratios of the respective solvents in the ternary azeotrope produced from the mixt.) is heated so that all H_2O present is removed by azeotropic distn., leaving a non-aq. liq. phase contg. oil and phosphatides.

Using azeotropic distn., the energy efficiency method yields phosphatides (i.e. commercial grade lecithin) possessing good H_2O-dispersibility. In addn., the handling of the oil-bearing miscella is improved. The lecithin may be used in foods and many industrial applications. It is an excellent emulsifying agent and has good wetting props. It may also be used in liq. animal feeds.
17.11.78. as 300641 (29pp47H).
(E) ISR:-

ADI ★ D23 79382B/44 ★EP ---4-889

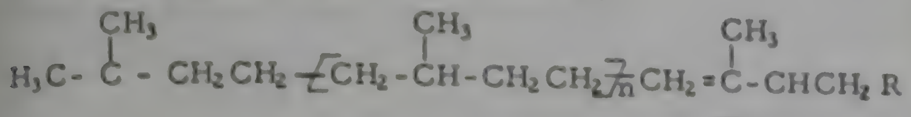
Prodn. of phytol and homologues from isophytol cpds. - by reaction with formic acid and transesterification

BASF AG 26.04.78-DT-818150

B05 E17 (31.10.79) C07c-29 C07c-33/02 C07c-67/08 C07c-69/07

D/S: E(BE, CH, DT, FR, GB, NL).

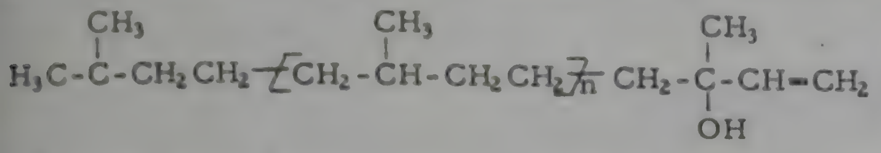
Prepn. of terpenoid cpds. of formula (I):



$$H_3C-\overset{\overset{CH_3}{|}}{C}-CH_2CH_2\left[CH_2-\overset{\overset{CH_3}{|}}{C}H-CH_2CH_2\right]_nCH_2=\overset{\overset{CH_3}{|}}{C}-CHCH_2R$$

(I)

(where R is OCOH or OH; n is 0-3) is carried out by reacting 1 mole of a tert. vinylcarbinol of formula (II):



$$H_3C-\overset{\overset{CH_3}{|}}{C}-CH_2CH_2\left[CH_2-\overset{\overset{CH_3}{|}}{C}H-CH_2CH_2\right]_nCH_2-\underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}}-CH=CH_2$$

(II)

with ≥ 2 moles of formic acid (in anhydrous form or as a > 70% aq. soln.) at 5-100°C to give (I; R=OCOH), which is then transesterified with a low-boiling alcohol in the presence of a catalytic amt. of strong base to give (I; R = OH).

The products include 6,7-dihydrogeraniol (I; R=OH, n=0), which is useful as a perfume, and phytol (I; R= OH, n=2), which is useful as a perfume fixative and an intermediate for vitamin E.

The process gives 70-90% yields of (I; R=OH).

30.3.79 as 79100964 (22pp367).
(G) ISR:-

INFL D23 59738B/32 =EP ---4-914

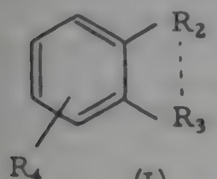
Prodn. of perfume cpds. esp. isochroman derivs. - from indane or tetra:hydro:naphthalene deriv. using propylene oxide and satd. hydrocarbon solvent

INT FLAVORS & FRAGR INC 19.04.78-US-897903

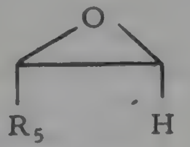
*E13 (31.10.79) *US4162-256 C07c-49/76 C07d-311/78 C07d-311/92 +A61k-07/46 C07c-31/16*

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

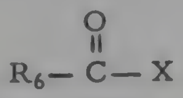
Prepn. of synthetic musk cpds. comprises reacting (a) a substd. benzene of formula (I) with (b) an alkylene oxide of formula (II) or an acyl halide of formula (III) in the presence of (c) a 5-10C alkane (mixt.) at ≥-20° C in the presence of (d) aluminium chloride catalyst.



(I)



(II)



$$R_6-\overset{\overset{O}{\|}}{C}-X$$

(III)

(where R_4 is H or 1-3C alkyl;
R_2 is H and R_3 is t-butyl, or R_2 and R_3 together form an (opt. alkyl-substd.) cyclopentano or cyclohexano ring;
R_5 is H or Me;
R_6 is 1-3C alkyl; and
X is Cl or Br).

The ratio (c) : (a) is 1-10 : 10 -1; the mole ratio (d) : (b) is 1-2 : 2-1; and the mole ratio (a) : (b) is 1.5-10 : 1.

The process is used for producing synthetic musks such as isochromans (e.g. Galaxolide; RTM) and acylated indanes. The process is economical, using one reactor and one physical step.

The use of the aliphatic satd. hydrocarbon (c) in combination with the Friedel-Crafts reactant and $AlCl_3$ causes the reaction mass to decrease in viscosity, thereby improving dispersion and heat transfer and thus providing improved yield of desired product.

5.4.79 as 101037. (36pp914).
(E) ISR: US3532719; US3978090; US3910964; US3360530; DT2808817; 1 Journal Reference.

FIRM ★ D23 79412B/44 ★EP ---4-968

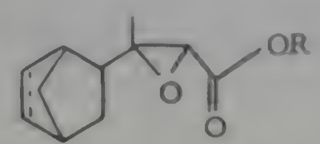
3-Norbornyl-glycidate alkyl ester derivs. - useful as perfume ingredients giving melon like note

FIRMENICH SA 17.04.78-CH-004073

E13 (31.10.79) C07d-303/02 C11b-09

D/S: E(CH, DT, FR, GB, IT, NL, SW).

Glycidate esters of formula (I) are new



(The dotted line indicates a single or double bond. R is 1-4C alkyl).

(I) are useful as perfume components. They have a fruit-like note with a strong melon character.

17.4.79. as 101172 (11pp1251).
(F) ISR: ——

HENK ★ D23 79417B/44 ★EP ---4-978

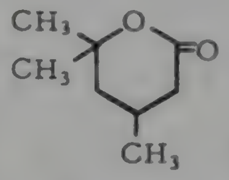
Tri:methyl-tetra:hydro-pyranone isomer perfumes - having a walnut odour and used in industry or cosmetics

HENKEL KG AUF AKTIEN 26.04.78-DT-818244

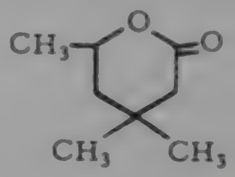
E13 (D21 D25) (31.10.79) A61k-07/46 C11b-09

D/S: E(BE, CH, DT, FR, GB, IT, NL).

The use of trimethyl-tetrahydropyran-2-ones of formulae (I) and (II)



(I)



(II)

as odorants is new.

(I) and/or (II) can be used for perfuming technical and cosmetic compsns., e.g. creams, lotions, aerosols, soaps, detergents and disinfectants. Their typical walnut note makes them partic. suitable for perfuming sunscreen cosmetic compsns. (I) has a mild-bitter, typical walnut note, whereas (II) has a more complex, herbal, nutty, menthone note. A 60:40 (I)/(II) mixt. retains the walnut note of (I).

23.04.79 as 101216 (10pp200)
(G) ISR: GB1179669; DT2756772; NL7714323; BE-862229; FR2385394; FR2385711.

VART D23 45995A/26 =GB 1554-797

Fat residue separation from solid catalysts - esp. nickel catalysts used to harden fats, using an isopropanol-contg. solvent mixt.

VARTA BATTERIE AG 17.12.76-DT-657171

*J04 (D13) (31.10.79) *DT2657-171 B01j-23/94*

Fatty residues, derived from the hardening of fat are sepd. from the catalyst used in the hardening by extn. with an isopropanol solvent, pref. also contg. ≤20 vol. % H_2O. Chemisorbed fat residue, still adhered to the catalyst after extn. is removed by distn. at 250-400°C in a counter-current of H_2.

The catalyst is specif. Ni. The solvent produces a soln which is easily filterable, but the filtrate is not coloured.

8.12.77 as 051191 (3pp976)

HOHN ★ D23 80147B/44 ★J5 4124-009

Inhibiting thermal browning of phospholipid(s) - by adding succinic acid or sodium succinate

HOHNEN OIL KK 22.03.78-JA-032489

E11 (D13) (26.09.79) A23d-05/04 C11b-05

Succinic acid or sodium succinate salt is added to oleo-fat contg. dissolved or dipsersed phospholipid prior to heating at ≥150°C or in the course of heating. In an example, 3g of soyabean phospholipid is dissolved in 100 g of purified Indian corn oil and the resulting solution is put in a flask having 300 ml volume, and 2 g of aqueous succinic acid is added to the Indian corn oil in the flask and it is heated at 160°C during 10 minutes with simultaneous agitations.

The phospholipid comprises soyabean phospholipid cotton seed phospholipid and rape seed phospholipid and it is used for synthesising proteins and it acts as energy source for cerebral tissue. 22.3.78. as 032489 (2pp1[illegible])

ASAH- D23 28131W/17 =J7 9031-485

Emulsifying oil prepn. - by adding lecithin and ethanol to fats, with heating and stirring

ASAHI TSUSAN KK 30.00.73-JA-002970

*(08.10.79) *J49090-705 +A22c-21 A22c-25 A23c-09/10 A23d-05 A23l-01 B01f-03/08*

An emulsifying oil was obtd. by adding lecithin and EtOH (1-20% of lecithin) to fats and fatty oils and heating at 20-60°C under adequate stirring. In an example, 16.5 emulsifying oil was obtd. by heating a mixt. contg. bean oil 8, rapeseed oil 7, and soybean lecithin 1.2 plus lard 180 and abs. alcohol 120g at 48-58°. 30.0 as 002970 A23d-5/00; B01f-3/08; A22c-21/00; 25/00 A23c-9/10; A23l-1/00; A61k-7/00; C09d-7/02; C14c D06m-13/00 (8.10.79) ASAHI TSUSAN KK (3pp) (J49090705)

See Also

D12 DT 2816521 D13 PT 29240

D24: SOAP; SOAP DETERGENTS

TEXU- ★ D24 79486B/44 ★FR 2414-897

Disposable wash glove - for hydrophilic fabric, impregnated with dried detergent

TEXUNION 18.01.78-FR-001844

F07 P28 (21.09.79) A47k-07/03

A disposable wash glove is constructed of a hydrophilic material, and contains a dried detergent, such as soap solution, which may be reactivated with water. The glove may display advertising, or trade marks. The hydrophilic material may be knitted, woven or non-woven.

In an example, the glove is cut from non-woven ma ial and sewn by overcasting at its edges. It is soaked liquid soap which is perfumed and coloured, then the is drained and dried ready for use. Trade marks, or vertising material may be printed on before the soap pregnation. 18.1.79 as 001844 (4pp1359)

D25: OTHER DETERGENTS

HENK ★ D25 79104B/44 ★BE -875-779

Liquid washing product for hand or machine washing - contg. specified ethoxylated cpds. and textile softening agent

HENKEL KG AUF AKTIEN 24.04.78-DT-817834

A97 E19 F06 (A25) (23.10.79) C11d D06l D06m

The prod. contains:- (a) 5-18% of an alkyl polyglycol ether of formula $(R_1)(R_2)CHCH_2O(CH_2CH_2O)_nH$ (I) in which R_1 is straight chain alkyl and R_2 is 20-75%, based on the alcohol which is ethoxylated, 1-4C alkyl and the rest H; the total C content of R_1 and R_2 is 11-15, n is 5-9 and the ethylene oxide content of the cpd. is 50-65%; (b) 5-18% of a cpd. of formula (I) above in which R_1 is straight chain alkyl, R_2 is H or as R_2 above; the total C content of R_1 and R_2 is 6-10, n is 3-8 and the ethylene oxide content of the cpd. is 55-70 %; (c) 2.5-10% (pref. 3-7%) of a quat. ammonium textile softening agent selected from ammonium and/or imidazoline derivs. pref. contg. 2 long chain aliphatic radicals; the pref. proportions of (a) to (b) being from 2:1-1:2.

The prod. is used for washing delicate articles at the same time conferring softening and antistatic properties to the material. The above enables optimum detergence, textiles softening and foaming power combined in hand or machine washing. 23.4.79 as 875779 (15pp597)

TENC ★ D25 79162B/44 ★BE -877-376

Conditioning article for textile fabrics during tumble drying - comprises flexible polyurethane foam sheet impregnated at surface with conditioning agent

TENNECO CHEMICALS 30.06.78-US-921023

A97 F07 (A25) (15.10.79) D06b D06f D06m

An article for conditioning fabrics in tumble drying comprises a flexible, resilient polyurethane foam sheet of density 17.6-28.8 (22.4-25.6) kg/m^3, thickness 0.635-6.35 (1.78-2.41)mm and pore count 20-100 (40-60) pores a2.54 cm. coated pref. on both surfaces with a discontinuous layer of a conditioning agent. The layer penetrates the surface to an av. depth $\ngtr 1/_3$, pref. $\ngtr 1/_4$, the thickness of the sheet and the central part of the sheet is free of the conditioning agent.

Used for treating fabrics with such conditioning agents as softening agent, antistatic agents, perfumes and optical brighters. During the first stage of drying a large proportion of the agent is transferred to the still wet fabric while during the last stage transfer is less effici 29.6.79 as 877376 (42pp950)

DOWO D25 04195U/04 =DS 2232-

Anti-foaming agent - comprising sodium tripolyphosphate surfa coated with organopolysiloxane defoamer

DOW CORNING CORP 01.07.71-GB-030964

*A97 E34 (A26) (25.10.79) *DT2232-262 B01d-19/04*

Foam control agent for machine detergents comprises powdered or granulated sodium tripolyphosphate on the surface of which is up to 60 wt.% (based on the wt. of sodium tripolyphosphate) of an organopolysiloxane defoa er. The organopolysiloxane may be a mixt. of a dimeth polysiloxane and a silicon dioxide, of surface area $\geqslant$50 The detergent may be an alkylsulphonate. 30.6.72 as 232262 (4pp068)

HENK D25 28594X/16 =DS 2539-

Washing or bleaching compsns. for textiles - contg. calcium bind agent and additives delaying pptn. of calcium cpds.

HENKEL KG AUF AKTIEN 04.10.74-OE-007998

*E36 F06 (E37) (25.10.79) *DT2539-071 C11d-03/12 D06l-01*

Vat washing and/or bleaching of textiles comprises trea ment with the usual componets in the presence of a wate insol. cation exchange resin of formula $(M_2/nO)_x$-M'_2O $(SiO_2)_y$, and the usual additives and/or surfactants.

In the formula, M is an n-valent cation capable of exchange with Ca; x is 0.7-1.5; M' is Al or B; and y is 0.8-6.0 (1.3-4.0); such that the Ca uptake is $\geqslant$ 50mg Ca per g. In partic., water-soluble phosphonates or phosph ates, and polyanionic cpds. capable of complexing with are present, in proportions of 1:10 to 10:1 by wt., (pref. 1:3 to 3:1). 3.9.75 as 539071 (11pp047)

HENK D25 28595X/16 =DS 2539-1

Washing or bleaching compsn for textiles - contg combination calcium-binding agents

HENKEL KG AUF AKTIEN 04.10.74-OE-008000

*E33 (E36) (25.10.79) *DT2539-110 C11d-03/12 D06l-01/12*

Vat washing and/or bleaching textiles comprises treatment with the usual cleansing and/or bleaching compone in the presence of a water-insol. silicate of formula $(M_2/nO)_x.M'_2O_3.(SiO_2)_y$, a water-soluble organic cpd. w inhibits the pptn. of $CaCO_3$ in hard waters; and a water-soluble organic cpd. which complexes with Ca.

In the formula, M is an n-valent cation which can exchange with Ca, partic. Na, Li, K, NH_4, Mg or substd. NH_4; x is 0. 7-1. 5 esp. 0. 7-1. 1; M' is Al or B; and y is 0. 8-6. 0, esp. 1. 3-2. 4; such that the uptake of Ca is 50-200 mg CaO per g.

These compsns. facilitate the washing and bleaching of textiles in hard waters. 3. 9. 75 as 539110 (16pp047)

PROC D25 50655Y/29 =DS 2658-073

Heavy-duty detergent compsns. - based on mixt. of nonionic and anionic surfactants, organic vehicle and water (BE 30.6.77)

PROCTER & GAMBLE EU 02.01.76-GB-000057

*A97 E19 (A25) (25.10.79) *DT2658-073 C11d-01/83*

Liquid washing and cleansing agent comprises a stable conc. compsn. contg. (a)mixts. of anionic and two nonionic surfactants, (b) an organic solvent, opt. a lower alkanol; (c) water; and opt. (d) the usual additives, to give pH about 6. 5-9. 5.

Pref. surfactants have the formulae $R_1O(C_2H_4O)_xH$, $R_2O(C_2H_4O)_yH$ and R_3SO_3M, in which R_1 is a prim. 14-22C alkyl with ≥65% branched structure and x is about 9-14; R_2 is 9-15C prim. or sec. alkyl and y is about 3-8; R_3 is 12-24C alkyl or (9-15C alkyl)phenyl; and M is Na, K, NH_4, or mono-, di- or tri(hydroxyethyl or -propyl) ammonium. 22. 12. 76 as 658073 (13pp047)

TSUR D25 79737Y/45 =DS 2701-727

Washing compsn. for socks and stockings - contains ethylene oxide adducts of secondary alcohols and an amphoteric surfactant

TSUMURA JUNTENDO KK (TSUM-) 28.04.76-JA-047838

*A97 E19 (25.10.79) *DT2701-727 C11d-01/94*

New washing agent esp. for hosiery comprises an alkene oxide/10-16C sec. alcohol condensate; a salt of the corresp sulphate esters; an amphoteric surfactant such as alkylglycine,betaine or imidazoline; and opt. additives and diluents. The ratio of condensate to its sulphate salt is 95:5 to 30:70 by wt. ; and the ratio of (condensate + its sulphate salt) to surfactant is 98:2 to 80:20 by wt.

Pref. ethene oxide, (1-8, esp. 3 moles), is condensed with 11-15 esp. 14-15C sec. alcohols; the salts are obtd. by conversion to the sulphates and neutralisation with NaOH, $N(CH_2CH_2OH)_3$ or NH_3. 18. 1. 77 as 701727 (8pp047)

SENP ★ D25 79355B/44 ★DT 2916-542

Aq. hypertonic cleansing soln. for contact lenses - contains urea and/or guanidine salt, reducing agent and pref. proteolytic enzyme

SENJU PHARM KK 24.04.78-JA-048392

E16 R21 (25.10.79) C11d-07/32 G02c-13

Contact lenses are cleaned by immersion in an aq. hypertonic soln. prepd. with a compsn. consisting of (a) sufficient urea and/or guanidine salt to render the soln. hypertonic, and (b) a sulphite, pyrosulphite, dithionite, $NaBH_4$ or a reducing, water-soluble organic cpd. contg. a mercapto gp.

The cleaning compsns. easily remove deposited proteins to leave clear, colourless lenses. Both soft and hard lenses can be treated.

Specifically urea or guanidine salt concn. in aq. soln. is 5 (wt. /vol) % to saturation, esp. 20-60 (wt. /vol)%, while component (b) concn. in soln. is 0. 01-20 (0. 1-10) (wt. /vol)%. In a pref. aq. soln., urea concn. is 10-60 (wt. /vol)% and sulphite concn. is 0. 01-20 (wt$\frac{1}{2}$/vol)%. A partic. active compsn. for cleaning off protein deposits contains a mercapto gp. cpd. and sufficient proteolytic enzyme to exert a synergetic cleaning activity with the urea or guanidine salt, quantities being pref. such that (a) concn. in soln. is 10-60 (20-40) wt/vol% mercapto gp. cpd. concn. is 0. 1-5 wt$\frac{1}{2}$/vol% and enzyme concn. is 0. 001-5 (0. 005-0. 5) wt. /vol. % 24. 4. 79 as 916542 (23pp200)

FARH ★ D25 79391B/44 ★EP ---4-919

Colourless tetra:acetyl-ethylene di:amine prepn. - by di:acetyl ethylene di:amine acetylation with acetic anhydride opt. with ketene addn.

HOECHST AG 21.02.79-DT-906606 (14.04.78-DT-816174)

E16 (31.10.79) C07c-102 C07c-103/90

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Prepn. of N,N,N',N'-tetraacetyl-ethylene diamine (II) by acetylating N,N'-diacetyl-ethylene diamine (I) with acetic anhydride at 120-170°C is carried out as follows. (I) and (II) are charged in wt. ratio 1:1 to 1:10 esp. 1:1 to 1:2.5, pref. with the addn. of 0.01-0.3 pts. wt. ketene based on (I).

Acetylation is interrupted before establishing reaction equilibrium between (I) and (II).

The brown reaction mixt. is purified to remove colouring contaminants, before or after separating (II) by crystallisation.

The purified and recovered reaction components which are incompletely converted to (II) are recycled to acetylation.

(II) is a perborate activator in detergent compsns. Colourless (II) is obtd. in yields of > 97%. Ketene addn. reduces reaction time and increases space-time yield. 6.04.79 as 101052 (19pp200)

(G) ISR: DT2118281; DT2133458; DT1910300.

SOLV ★ D25 79421B/44 ★EP ---4-997

Particles contg. polylactone and bi:carbonate - disintegrating rapidly in water, useful in cleaning, washing and bleaching compsns.

SOLVAY & CIE 24.04.78-FR-012255

A97 E34 (E35) (31.10.79) C08l-33/02 C08l-67/04 C11d-03/37

D/S: E(BE, CH, DT, FR, GB, IT, LU, NL, SW).

Particles consisting mainly of polylactones (I) derived from polyhydroxy carboxylic acids (II), additionally contain an alkali metal or NH_4 bicarbonate, esp. $NaHCO_3$, pref. at 3-20 wt.% on (I).

They are pref. made by dry mixing particles of (I) and bicarbonate having mean diam. 2-50 microns. Esp. (II) contain (pref. are made exclusively from) units of formula $-CR_1R_2-C(OH)COOH$ (R_1 and R_2 = H or 1-3C alkyl, esp. both are H).

In powdered washing, cleaning and bleaching compsns. These particles disintegrate more readily in aq. medium than do known (I)-based particles.

17.4.79 as 200192 (17pp1251).

(G) ISR: No document cited.

HOUI ★ D25 79469B/44 ★EP ---5-098

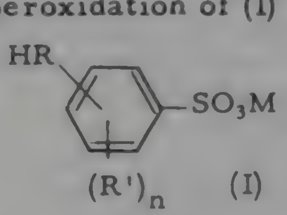
Dry mixt. of alkylbenzene sulphonate and corresp. hydroperoxide - useful as detergent and bleaching components

SOC CHIM CHARBONNAGES 10.10.78-FR-028907 (14.04.78-FR-011082)

E12 (31.10.79) C07c-179/22 C11d-03/39

D/S: E(BE, DT, GB, IT, LU, NL).

(A) Compsn. is a dry, solid mixt. of (a) sulphonate of formula (I) and (b) hydroperoxide (II) obtd. by hydroperoxidation of (I)



(I)

(M = alkali metal, e.g. Na; RH = lower alkyl, pref. isopropyl; R' = lower alkyl; and n < 5, pref. 0 or 1).

Pref. compsns. contain 5-75% (I); 25-70% (II) and 0-30% alcohol (III) derived by partial decompsn. of (II).

(B) Method for peroxidation of (I) comprises treating its. aq. soln. with O_2 at ≯ 85°C and pH 9-10.5 using as catalyst 1-50 ppm on (I) of Co as Co naphthenate.

The compsns. are water-soluble bleaching and detergent compsns. which are stable at room temp. They additionally have a softening effect, making use of separate softeners unnecessary.

4.4.79 as 400219 (28pp1251).

(F)ISR: FR2088716; GB-889652; US2829158.

BEDD/ ★ D25 79480B/44 ★EP ---5-131

Cleaning soln. for soft contact lenses - contg. lipolytic enzyme and phosphate buffer, and opt. a proteolytic enzyme

BEDDING P M J 02.10.78-GB-038873 (21.04.78-SW-004614)

R21 (D16) (31.10.79) C07g-07/02 C11d-07/42 G02c-07/04

D/S: E(BE, CH, DT, FR, IT, LU, NL, SW).

Liquid for cleaning soft contact lenses consists of a soln. contg. a lipolytic enzyme (I) and a phosphate buffer.

The cleaning soln. is pref. hypertonic, and pref. also contains a proteolytic enzyme (II) with activity ca. 100 tyrosine units/µg of protein (substrate).

Prefd. (I) is derived from Cand. cylindracae and is lyophilised, and is used at 100 units/10 ml of 0.1M-phosphate buffer. Prefd. (II) are bromelain and papain, and when a (I)-(II) combination is used, pref. an aq. polymer complex (polyethylene glycol, polyvinyl alcohol etc.) is included in the soln.

Cleaning soln. is simple to use, and provides improved cleaning effect. Unlike known cleaning compsns., the soln. may be used daily for cleaning, and also to prevent build-up of lipids and (if it also contains a proteolytic enzyme) proteins.
23.4.79 as 850032 (17pp478).
(E) ISR: —

PROC D25 27144Y/16 =GB 1554-736
Low-foam liq. detergent concentrates - contg. nonionic and anionic surfactants and a self-emulsifying silicone foam regulator
PROCTER & GAMBLE CO 14.10.75-US-622305
*A97 E19 (31.10.79) *BE-847-265 C11d-01/83 C11d-03/37*

A conc. homogeneous, low-sudsing liq. detergent comprises (I) 10-50wt.% nonionic surfactant, (II) 10-50wt.% anionic surfactant and (III) and self-emulsifiable, silicone suds-controlling agent contg. emulsifier. The total amt. of surfactant is $>$ 30wt.%, and the ratio of (I):(II) is 1:8 to 8:1, based on the free acid form of (II).

Pref. (I) is the condensn. prod. of 1 mole of 8-22C alcohol and 2-20 mole ethylene oxide; (II) is alkyl sulphate, alkyl (benzene) sulphonate and/or alkyl polyethoxylate sulphate; the silicone is a polydimethylsilicone, and the emulsifier is a polyoxyalkylated siloxane.

This builder-free compsn. has good pre-wash and through-the-wash fabric cleansing. 14.10.76 as 042726 (13pp726)

AJIN ★ D25 79611B/44 ★J5 4120-610
Non-toxic cleaning compsn. - contg. N-acyl-glutamate and alkyl phosphate or polyoxyethylene alkyl phosphate
AJINOMOTO KK 14.03.78-JA-028823
E19 (D21) (19.09.79) A61k-07/06 C11d-01/83

Cleaning compsn. contains (a) N-acylglutaminate and (b) alkylphosphate or polyoxyethylenealkylphosphate. Pref. the acyl is a residue of a 8-22C fatty acid (e.g., 2-ethylhexanoyl, lauroyl, palmitoyl, stearoyl, oleoyl, acylated mixed fatty acids). Pref. salts of Li, Na, K, NH_4, alkyloamine and basic aminoacid are used.

Compsn. is harmless and non-stimulating to skin and hair. It has prominent foaming and cleaning powers, and is useful as material for solid soap, shampoo and tableware cleaner. 14.3.78. as 028823 (4pp170)

NIGO- ★ D25 79837B/44 ★J5 4122-224
Sulphation of organic cpds. with sulphamic acid - using catalyst prepd. from organic, inorganic or aromatic acid and urea
NIPPON GOSEI SENZAI 13.03.78-JA-027688
B05 E19 (D21) (21.09.79) B01j-31/02 C07c-139 C07c-141/02

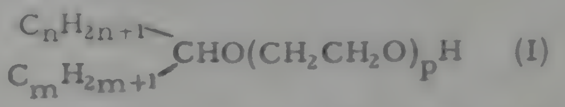
In sulphating aliphatic or aromatic compounds (having hydroxy or polyether groups which are formed by addn. of alkylene oxide to hydroxy gps) with sulphamic acid, the improvement is that the reaction is carried out in the presence of a catalyst prepd. by combining an inorganic acid, organic acid or aromatic sulphonic acid which donate hydrogen ions and urea.

In sulphation with sulphamic acid in the prior art using urea, the urea combines with the sulphamic acid to give granular solids which decrease the reaction rate greatly. The combined use of the cpds. removes such a disadvantage. The process may be applied to prepn. of raw material (ammonium salts of sulphates) and detergents, cosmetics, shampoo, soaps and medicines.

Said aliphatic or aromatic cpds. to be sulphated include: naturally occurring or synthetic higher alcohol-ethylene oxide adducts, higher fatty acid glycerin monoester-higher fatty acid propylene glycol monoester-ethylene oxide adduct, alkylphenol ethylene oxide adduct; synthetic sec higher alcohol-ethylene oxide adduct; lanolin alcohol-ethylene oxide adduct, cholesterol-ethylene oxide adduct; steroidal hormones, and alcohols having triple bonds. Said acid catalysts include AcOH, TsOH, and phosphori oxyacids (e.g. orthophosphoric acid, metaphosphoric a pyrophosphoric acid). 13.3.78. as 027688 (8pp52)

JAPC ★ D25 80019B/44 ★J5 4123-
Low temp.-stable liq. detergent - contg. random sec. alco ethoxylate, anionic surfactant, solubiliser, viscosity regulator a water
NIPPON SHOKUBAI KAGAKU 18.03.78-JA-030519
A97 E17 (A25) (25.09.79) C11d-01/72

The detergent contains, as principal ingredients, 1 to 90 wt.% random secondary alcohol ethoxylate (a) of formula (I):



$$\begin{matrix} C_nH_{2n+1} \\ C_mH_{2m+1} \end{matrix} > CHO(CH_2CH_2O)_pH \quad (I)$$

(where n =1-10, m= 1-10, n+ m = 8-11, n + m = 8(0-50 wt.%), n + m = 9 (0-100 wt.%), n + m = 10 (0-100 wt.%) n + m = 11 (0-50 wt.%), and p is 3-20 on average), contg. $<$ 4% unreacted (p= 0) alcohol; 1 to 90 wt.% anionic surfactant (b); 0 to 5 wt.% supplementary surfactant (c); 0 to 10 wt.% solubilising agent (d); 0 to 5 wt.% viscosity regulator (e); and water, together, if necessary, with a builder, bacteriostatic agent, fungicide, bleaching agent, fluorescent substance, colouring agent, perfume, antioxidant, etc.

The liq. detergent has high cold resistance, good foam breakability, and good rinsability, as well as high detergency, with the use of a very small amt. of solubilising agent or without the use of the solubilising agent, and thus is useful as detergent for clothes, tableware, etc. 18.3.78. as 030519 (7pp117)

KAWA- ★ D25 80020B/44 ★J5 4123-108
Solid detergent with good foaming properties in hard or soft water - comprises dextrin and a synthetic detergent such as alcohol sulphate, glutamic acid salt, acyl sarcosine salt or alanine salt
KAWAKEN FINE CHEM K 17.03.78-JA-030743
E19 (25.09.79) C11d-01/10 C11d-03/20 C11d-10/02

Solid detergent contg. synthetic detergents and dextrin, comprises $\geq$1 synthetic detergent selected from sulphates, e.g., alkali metal salts, of 8-22C alcohols with (un)-satd. aliphatic hydrocarbon radicals as alkyl gp., the salts, e.g., alkali metal salts, ammonium salt; water-soluble amine salts, or basic amino acid salts, of N-long chain 8-22C acyl glutamic acids with (un)satd. aliphatic residual gps. as acyl gps., the salts, e.g., alkali metal salts, ammonium salt, water-soluble amine salts, or basic amino acid salts, of N-long chain 8-22C acyl sarcosines with (un)satd. aliphatic residual gps. as acyl gps., and the salts, e.g., alkali metal salts, ammonium salt, water-soluble amine salts, or basic amino acid salts, of N-long chain 8-22C acyl-N-methyl-beta-alanine with (un)satd. aliphatic residual gps. as acyl gps.

The solid detergent has excellent foaming ability regardless of the kind of water and also good sense of touch. 17.3.78. as 030743 (6pp117)

KAOS ★ D25 80149B/44 ★J5 4124-011
Detergent compsn. for automatic washing machines - comprises builder mixt. of a crystalline aluminosilicate salt and amorphous aluminosilicate salt contg. phosphorus component
KAO SOAP KK 20.03.78-JA-031920
E33 (26.09.79) C11d-03 12

Detergent compsn. comprises a builder mixt. consisting of a crystalline alumino-silicate salt and an amorphous alumino-silicate salt contg. phosphorus component. The crystalline alumino-silicate salt is of formula $x(M_2O.Al_2O_3.y(SiO_2).w(H_2O)$ (I) where M is Na and/or Ka, x is a figure denoting a molar number of above (M_2O)component in a range of 0.7-1.2, y is a figure denoting a molar number of above (SiO_2) component in a range of 1.6-2.8 and w is O or positive figure including zero. The amorphous alumino-silicate salt having phosphorus component is of formula $x'(M_2O).Al_2O_3.y'(SiO_2).z(P_2O_5).w'(H_2O$ (II) (where M is Na and/or K, x' is a figure denoting a molar number of (M_2O) component in a range of 0.5-1.2, y' is a figure denoting a molar number of (SiO_2)component in a range of 1.0-3.0, z is a figure denoting a molar

umber of (P_2O_5) component in a range of 0.01-0.6 and w'
a positive figure including O.
The detergent compsn. is used for mechanical automa-
c laundry machine. 20.3.78. as 031920 (5pp15)

SAE D25 35319V/19 = J7 9031-476

mphoteric surfactant composite - with good penetrating- and ashing power

ASAHI DENKA KOGYO (ASAH) 10.04.72-JA-035945
*E12 (06.10.79) *J48102-787 + C11d-01/92*

omposite contains $R_1CHOHCH_2N/ (CH_2)_nSO_3M /CH_2CHO$-
R_2 (R_1, R_2=2-13C aliphatic or 6-13C aromatic radical,
$+R_2$ = 8-15C; M = base; n = 1-4). In an example,
aurine 125g was dissolved in 100g 40% NaOH, mixed with
tyrene oxide 120 and 1,2-epoxyoctane 128g dropwise at
20° in 30 mins. and allowed to react for 90 mins. to give
white paste. 10.4.72 as 035945 C11d-1/92 (6.10.79)
SAHI DENKA KOGYO CO. (5pp) (J48102787)

HON D25 12750V/07 = J7 9031-480

odium polyphosphate prepn - by granulating sodium rthophosphate with water or aqs orthophosphate soln drying and eat treating granules

RHONE PROGIL 14.06.73-FR-021589 (31.07.72-FR-027486)
*E34 (06.10.79) *NL7310-452 C01b-25/40*

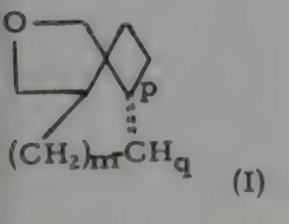
lkali metal polyphosphate with a predetermined crystall-
ne form, esp. for use in detergent compsns., is prepd.
y (a) granulating a dry alkali metal orthophosphate having
molar ratio of alkali metal oxide/phosphoric anhydride
of 1 and 2, with water or an aqs. soln., (b) drying the for-
med spherical orthophosphate granules, and (c) thermally
treating the granules in the presence of steam. Controll-
ed hydration properties and particle size. Low content
of fine material. Very high yields. Hard granules of
uniform compsns. 30.7.73 as 085048 (clg. 31.7.72;
14.6.73-FR-027486; 021589) C01b-25/40 (6.10.79) RHONE
-PROGIL (6pp) (J49044999)

FIRM D25 03122X/02 = NL-161-755

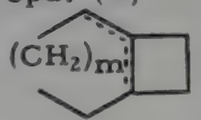
Oxygenated tricyclic derivs. - useful as perfume components, giving strong amber note

FIRMENICH SA 21.06.74-CH-008516
*B07 C03 E13 + P15 (15.10.79) *NL7507-373 A23l-01/22 A24b-15/04 C07d-307/94 + C11b-09*

Novel tricyclic cpds. with an O-contg. hetero ring, are of formula (I):


(I)

in which m = 6, 7 or 8; p = 0 or 1; q = 1 or 2. Prepn. is by reacting a cpd. (II) with one double bond,


(II)

in which m = 6, 7 or 8; with a mixt. of acetic acid and para-formaldehyde in a ratio 10:1 to 10:4, opt. followed by redn.

(I) have organoleptic properties and may be used as scent or aromas. They have a well-characterised strong- and lasting scent of amber and may be used in perfumes, soaps, domestic prods., cosmetics, etc. (I) have a typical amber-woody taste and may be used in aromatising tobacco, its prods. or in foodstuffs and drinks.
20.6.75 as 007373. (9pp279)

FARH D25 02700S/02 = NL-161-813

Detergent paste derived from organic - sulphur acids

HOECHST AG 17.02.68-DT-692009
*(15.10.79) *GB1219-384 C11d-01/12 C11d-11/04 + C11d-17/08*

Method is described for the continuous prodn. of a pumpable, liq. washing agent paste. A paste is prepd. contg. >60wt.% wash-active material; the organic sulphuric acid semi-esters and organic sulphonic acids are neutralised by degassing in a vacuum device having rapidly rotating atomisers, and then mixing with alkali in a continuous mixer, which is used as a toothed-disc mixer. The neutralised material is part sepd. as prod., and part recycled to the neutralisation appts. via a cooler, in a ratio of 1:5-30.

Use of a continuous mixer instead of a conventional kneader for neutralisation, practically no air is introduced which would adversely affect consistency of prod., and temp. increased during neutralisation is controlled by the high recycle ratio so that thermal degradation is minimised. 11.2.69 as 002119. (4pp913)

UNIL D25 41536R/23 = NL-161-827

Reducing the rigidity of fabrics

UNILEVER NV 09.12.68-US-782469
*(15.10.79) *BE-742-879 D06m-13/46 + C11d-03/26*

Wash-softening prepn. comprises conventional constituents with an anti-yellowing medium and a softener based on a quat. ammonium cpd. or imidazoline. The anti-yellowing medium is an association cpd. of an alkyl alcohol or alkanediol of 12-22C and an alkali metal (12-18C)alkylsulphate. The wt. ratio of softener:association cpd. is 1.4-10:1.

Pref. the wt. ratio is 2-4:1, and an association cpd. of octadecanol and sodium laurylsulphate is used. The prepn. also contains builders and non-ionogenic synthetic wash-active cpd. Specific formulation comprises (by wt.) 10-20% non-ionogenic synthetic wash-active cpd., 5-60% builder, 0.05-6% alkylsulphate and 0.02-3% alkyl alcohol or alkanediol. No loss of softening potential occurs.
8.12.69 as 018426. (6pp913)

HENK D25 25208A/14 = US 4172-044

Low-foaming dishwasher rinsing compsn. - contg. alkoxylated hydroxyalkyl ester

HENKEL KG AUF AKTIEN 01.10.76-DT-644542
*A97 E17 (A25 E14) (23.10.79) *BE-859-183 C11d-01/72 + B01d-19/02 C07c-69/16*

In the mechanical washing of dishes which involves treating the washed dishes with ⩾1 clear rinsing soln. (I), improvement comprises using, as (I), an aq. soln. contg. 0.01-0.5 g/l of ⩾1 alkoxylated hydroxyalkyl ester of formula. $R_3\text{-COO-CHR}_2\text{-CHR}_1\text{-O-}(C_2H_4O)_n\text{-}(C_3H_6O)m\text{-H}$ (II). R_1 and R_2 are (a) 1-17C alkyls, sum of $R_1 + R_2$ being 6-18C or (b) one is H and the other 8-14C alkyl; R_3 is 1-12C alkyl or 6-12C hydrocarbon aryl; n is 2-14; m is 1-7 when both R_1 and R_2 are alkyl and 0-7 when one of R_1 and R_2 is H.

The cpds. have very low foaming properties. They are very water-soluble even at rinse temps. Compsn. is biodegradable. 29.9.77 as 837691 (8pp963)

FMCC D25 68934A/39 = US 4172-086

Crystalline percarboxylic acids prepn. from carboxylic acids - by hydrogen peroxide oxidn. in presence of water immiscible solvent

FMC CORP 28.03.77-US-782204
*E19 F06 (D22) (23.10.79) *BE-865-205 C07c-179/10 + C11c-03*

A crystalline penoxycarboxylic acid is prepd. by oxidn. of an aq. phase of a carboxylic acid with H_2O_2. Improvement comprises conducting the reaction in the presence of oleum, H_2SO_4, CF_3SO_3H, CH_3SO_3H or tolnene sulphonic acid, in an amt. of 1.3-5 moles per mole of carboxylic acid in the mixt.

A sufficient quantity of an inert water-immiscible solvent is then intimately dispersed throughout the aq. phase to selectively remove the peroxycarboxylic acid from the aq. phase as it is formed, the solvent having been added to the carboxylic acid and the strong acid before addn. of the H_2O_2. Pref. the solvent is (o-di)chlorobenzene.

Yield is improved and reaction time reduced. The prods. have superior bleaching and germicidal properties for textile and home laundry applications. 28.3.77 as 782204 (7pp997)

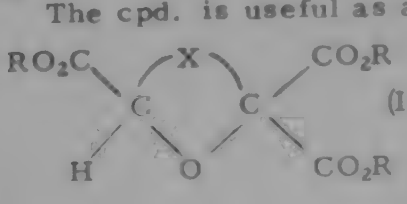
MONS ★ D25 80807B/44 ★ US 4172-208

5-Bromo-5,5-di:carboxyethyl-valeraldehyde di:ethyl acetal - useful as intermediate for tetra:hydro-pyran 1,4 dioxan- or THF type detergent builder cpds.

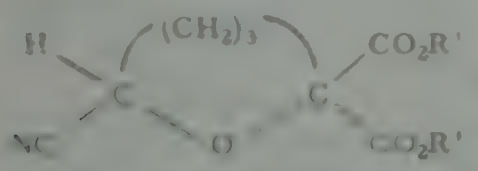
MONSANTO CO 27.07.78-US-928747 (05.01.77-US-756946)
E13 (D15) (23.10.79) C07c-69/62

A new cpd. is 5-bromo-5,5-dicarboxyethylvaleraldehyde diethyl acetal of formula $C(CO_2C_2H_5)_2Br\text{-}(CH_2)_3\text{-}CH(OC_2H_5\text{-})_2$.

The cpd. is useful as an intermediate in the prepn. of


(I)

cpds. of formula (I) which are useful(in salt form) e.g. as water softeners, detergent builders, calcium and magnes-ium sequestrants and scale dissolvers. In the formula X is selected from gps. to provide tetrahydropyran-type cpds 1,4-dioxane-type cpds. or tetrahydrofuran-type cpds.; and each R is alkali metal, NH_4^+, trialkanolammonium or $\leq$ 20C alkyl.



(II)

US 4120874 claimed other intermediates, specifically cyclic cyano diester cpds. of formula (II) (where each R' is lower alkyl).

27.7.78 as 928747 Div. ex 4120874 (6pp990)

See Also

D23 EP ---4978

CPI INDEXES

ALERTING PATENTEE INDEX (II)

Weekly by section and overall, lists all current patents in patentee code order and, within a given patentee, in earliest priority date order. The first line gives patentee code, earliest priority date, patentee name, CPI classes and finally the current patent number. The second line gives the first part of the title, followed by the accession number.

EIGE/ 24.01.75 EIGENMANN L A93 *DT 2602-948
Bonding fluid for road marking strips - 60224X/32
EIGE/ 27.01.75 EIGENMANN L A93 L02(A21) *DT 2602-947
Bonding fluid for road marking strips - 60223X/32

Not in Basic Abstracts Journal

CPI CLASS INDEX (IV)

Weekly only. Headings are all the CPI classes within the section to which an Alerting Bulletin relates, arranged in numerical order. Posted under each class heading is a list, in country then patent number order, of all basic or equivalent documents referenced or cross-referenced under that heading.

M22
*BE -836-489
*CA -987-881
=DS 1569-023
=DS 2245-330
*DS 2517-206
*DS 2519-679
=DS 2520-359
*DT 2450-918
*DT 2451-494
=DT 2451-607

In Country Alerting Bulletin only

BASIC NUMBER INDEX (V)

Weekly by section and overall, lists all entries by accession number. Each heading consists of the accession number in bold, followed by the CPI section letters. There then follows a list of all the family members, commencing with the basic and finishing with the current week's patent. For each family member the CPI week of issue is quoted, and a plus sign indicates that a multiple priority has been claimed.

09125-X ACDF
US 3933-788 X05+
CA -990-674 X26
09192-X BC
US 3933-948 X05
BE -832-423 X10
NL 7509-762 X10
DT 2535-514 X11
SW7509-042 X15
NO7502-837 X16
SF 7502-292 X19
ZA 7504-766 X21

In all Editions

PATENT NUMBER INDEX (VII)

Weekly by section and overall. Lists left to right the patent type (* for basic, = for equivalent or # sign for non-convention equivalent or where the priority has been artificially "added" to the specification), patent number, accession number and CPI classes.

US 3963
#636 36477U A97D15M14
***645** 49861X A41E19J04
=646 19776V A41E19J04
=647 21100X A17+R4
=650 06289S A22
#651 24399W A97K05L02M22
=652 73248V A12
=653 70544V A81G03
***654** 49862X A88H01Q4
***655** 49863X A81G03

In all Editions

BASIC PATENTEE INDEX (X)

Weekly by section in BAJ only. Entries under any given patentee code heading are in earliest priority date order. The title, truncated to 105 characters, is followed by the accession number and current patent number. The last line of each entry consists of the patentee name, the priority details (earliest then latest if there is more than one) and finally the Derwent classes. This index is cumulated quarterly and annually by section as hard copy. Overall A—M cumulations of from a quarter up to 5 years are available as COM.

CALI
Nitrile rubber smooth rolled sleeve for well impression packer - also contg natural rubber, hydrated 49862X/26 *US 3963-654
CHEVRON RESEARCH CO 25.06.73-US-373341 +29.07.74-US-492377 A88 H01
Mica contg. plastified sulphur mixt - for coating walls and floors or solidifying earth in dams 49433X/26 *DT 2554-327
CHEVRON RESEARCH CO 03.12.74-US-529258 +13.11.75-US-631781 A82L02
CANA
Emulsifying agents of microbial origin - used esp. for oil spills, are made by cultivating a species of 48076X/26 *CA -990-668
CANADIAN PAT & DEV LTD 31.08.72-US-285159 A97 D16 H03

In Basic Abstracts Journal only

MANUAL CODE INDEX IN Basic Abstracts Journal only

At the start of each main group of codes, the manual code and its descriptor are printed in the middle of the column. Each sub-division of a manual code group appearing during the week is given, accompanied by its descriptor. All manual codes occurring during the week within each sub-division are then listed, with accession numbers posted against them.

In all there are about 3,600 manual codes in CPI, each one having an average of less than 200 documents assigned to it per year. The full classification is set out in the Manual Code Instruction Manual, which also contains a keyword index of terms for easy reference.

COUNTRY COVERAGE

"Major" Countries

Covered completely in CPI and WPI from the commencement of the service except: Research Disclosure 1978, Europe and PCT 1979, Sweden transferred from "Minor Countries" 1979. Average weekly numbers are listed alongside.

Fast publishing

Belgium	180	
Europe	150	
France	740	
Germany, W. unexamined	1050	
Japan unexamined	845*	
Netherlands unexamined	240	
PCT	40	
Research Disclosure	20	
South Africa	100	
Sweden	260	
United Kingdom unexamined	600	3325

Slow publishing

Canada	450	
Germany, E.	100	
Germany, W. examined	465	
Japan examined	340*	
Netherlands examined	60	
Soviet Union	1200	
Switzerland	260	
United Kingdom examined	300	
United States	1200	4375

*Only CPI coverage for Japan.

"Minor" Countries

Complete coverage, but only introduced during 1975, with exception of Italy 1978.

Fast publishing

Brazil	140	
Denmark	120	
Finland	60	
Norway	80	
Portugal	30	430

Slow publishing

Austria	125	
Czechoslvakia	180	
Hungary	35	
Israel	40	
Italy	155	
Rumania	25	560

MINOR AND MAJOR COUNTRIES

If the first publication of an invention takes place in one of the 'major' countries listed above, then this publication is called the basic patent, a WPI accession number is assigned, and this is used for all subsequent members of the family.

If, however, the first publication occurs in one of the 'minor' countries listed above, then the document is regarded as a provisional basic. No accession number is assigned, since an abstract is not provided. If this provisional basic is then followed by further family members also from 'minor' countries, these produce entries in the same indexes even though an accession number has still not been assigned.

However, as soon as a member of the family is published in one of the 'major' countries, then this is regarded as the first disclosure. An accession number is assigned, and will apply also to all the earlier members of the family (from the 'minor' countries). Hence it is possible to see, in Index V, entries where the basic has a later week number than some of its equivalents.

For CPI, if the first publication occurs in Sweden, South Africa or Japan — in the case of Non Japanese nationals — then the document is treated as a provisional basic as outlined above. Other than for Japan where a heading is given, an Alerting abstract is included in CPI at this stage.

Subsequently, when a documentation abstract is available an accession number is assigned to the document and the abstract published in the BAJ and related products. Headings will be included in the Alerting Bulletins for Sweden and South Africa together with abstracts for the Japanese at this later stage.

Entries are included in WPI Gazettes at both stages. At the later stage both a basic and an equivalent heading will be given for each such patent number.

COUNTRY CODES

For patent number (not priority) purposes, DS distinguishe accepted West German specifications (DAS) from th unexamined applications (OLS) which are given the norma DT code. in the case of Japan J5 represents th unexamined applications, and J7 the examined of th present series.

Argentina	AR
Australia	AU
Austria	OE
Belgium	BE
Brazil	BR
Bulgaria	BG
Canada	CA
Chile	CE
Colombia	CO
Czechoslovakia	CS
Denmark	DK
Europe	EP
Finland	SF
France	FR
Germany, East	DL
Germany, West	DS
Germany, West	DT
Greece	GR
Hungary	HU
Iceland	IS
India	IN
Ireland	EI
Israel	IL
Italy	IT
Japan	JA
Japan, unex.	J5
Japan, ex.	J7
Luxembourg	LU
Malawi	MV
Mexico	MX
Monaco	MC
Netherlands	NL
New Zealand	NZ
Norway	NO
Pakistan	PK
PCT	WP
Philippines	RP
Poland	PO
Portugal	PT
Rhodesia	RH
Rumania	RU
South Africa	ZA
South Korea	KS
Spain	ES
Sudan	SD
Sweden	SW
Switzerland	CH
Syria	SR
Trinidad	TD
Turkey	TR
Untd. Kingdom	GB
U.S.A.	US
U.S.S.R.	SU
Yugoslavia	YU

ABGE= 19.04.77 AS BELO GENERAL IND A97 D15 J01 (A14) *SU -647-255
Flocculant for clay-salt suspensions - 80470B/44
AGAA 24.01.78 AGA HEATING AB D15 =FR 2415-080
Biological dry toilet - 56576B/31
AGEM 18.03.78 AGENCY OF IND SCI TECH A35 D15 F09 *J5 4123-250
Calcium-contg. water-treating agent prepn. - 80079B/44
AGEN 19.09.67 AGENCY OF IND SCI TECH B04 D16 E14 J04 *J7 9031-395
Detection of phenol derivs. e.g. thymol and vanillin - 80246B/44
AGRI= 29.11.77 AGRIC CHEMISATION D14 *SU -648-197
Fruit and vegetables sterilised storage apparatus - 80623B/44
AJIN 00.00.73 AJINOMOTO KK C03 D16 =J7 9031-076
Preparation of yeast cells and fermentation products - 15542R/10
AJIN 14.03.78 AJINOMOTO KK D25 E19 (D21) *J5 4120-610
Non-toxic cleaning compsn. - 79611B/44
ALBR 19.02.79 BUSH BOAKE ALLEN LT D13 =GB 2019-192
Dehydrating organic tissues esp. foods - 59829B/33
ALIM- 20.01.78 PROD ALIMENTAIR DIE D13 *FR 2414-867
Multi-compartment curds vat for producing cheese - 79484B/44
ALLI/ 24.04.78 ALLIGER H D22 #DT 2817-942
Germicidal compsn. prepn. from sodium chlorite - 41958A/23
ALLR 24.09.73 ALLERGAN PHARM INC A96 D22 E16 (A11 A14 A89) =DS 2436-905
Sterilising soft contact lenses - 24545W/15
ALUM- 19.10.78 ALUMINIUMIPARI TERV D15 *US 4172-040
Sedimentation tank rake - 80738B/44
ALZA 28.01.75 ALZA CORP A96 B07 C03 D21 (A23) =OE 7600-552
Biodegradable ortho-ester polymers - 48032X/26
AMCY 23.01.78 AMERICAN CYANAMID CO A14 D15 (A97) #FR 2415-079
Scale inhibition using anionic polymer(s) - 15726A/08
AMMA 24.07.69 AMF INC A18 D18 (A25 A97) =DS 2032-377
Synthetic tobacco product contg ethylhy- - 08187S/04
AMMA 17.03.78 AMF INC D18 =BR 7901-657
Reconstituted tobacco leaf contg. fibres, partic. hardwood - 52610B/29
ANDE/ 13.03.78 ANDERSSON B A E A96 D21 =DK 7901-019
tooth cleaner comprises piece of plastics elastic polyolefin foam - 72061B/40
ANDE/ 13.03.78 ANDERSSON B A E A96 D21 =NO 7900-839
tooth cleaner comprises piece of plastics elastic polyolefin foam - 72061B/40
ANDE/ 13.03.78 ANDERSSON B A E A96 D21 =SW 7802-828
tooth cleaner comprises piece of plastics elastic polyolefin foam - 72061B/40
*ANDE/ 13.04.78 ANDERSSON B A E D22 E19 *DT 2914-386
Deodorising, disinfectant, liq.-absorbing article - 79314B/44
*ANDZ 27.10.78 MASCH ANDRITZ AG D15 *OE 7807-677
Dewatering machine control - B/44
ANIS 23.02.76 ANIC SPA D15 E13 =OE 7807-988
Bis- and tris-guanyl hydrazonium salts - 61168Y/35
ANVR 07.02.75 AGENCE NAT VALORISATION B07 D16 =CA 1064-394
Aq. emulsions of metabolisable vegetable oils - 65270X/35
*ARUB- 17.03.78 ARUBOSU YAKUSHO KK D21 E14 *J5 4123-106
Antimicrobial soap - 80018B/44
ASAE 10.04.72 ASAHI DENKA KOGYO D25 E12 =J7 9031-476
Amphoteric surfactant composite - 35319V/19
*ASAE 15.03.78 ASAHI DENKA KOGYO D13 *J5 4122-770
Confectionery prepn. - 79981B/44
*ASAG 17.03.78 ASAHI GLASS KK A91 D15 K05 M25 *J5 4122-616
Collecting uranium from e.g. sea-water - 79917B/44
ASAG 12.04.78 ASAHI GLASS KK A97 D15 K05 M25 =DT 2915-119
Macromolecular adsorbent for heavy metal ion recovery - 77797B/43
*ASAG= 30.12.75 AS AGROCHEM SOIL C04 D15 H04 (D16) *SU -647-296
Liquid fertiliser - 80511B/44
ASAH 30.01.69 ASAHI KASEI KOGYO K D16 =NL -161-814
Culturing yeasts which utilise hydrocarbons - 57294R/32
ASAH 14.11.69 ASAHI CHEMICAL IND KK D17 =J7 9031-050
Desalinating sugar solns - 73148T/46
ASAH 14.11.69 ASAHI CHEMICAL IND KK D17 =J7 9031-050
Desalinating sugar solns - 73148T/46
ASAH 20.04.72 ASAHI CHEMICAL IND KK A88 D15 (A14) =J7 9031-464
Partition membranes prepn. - 57436V/32
*ASAH 15.03.78 ASAHI CHEMICAL IND KK B05 D16 *J5 4122-795
Coenzyme Q10 prodn. e.g. for treating cardiac insufficiency - 79986B/44
ASAH- 30.00.73 ASAHI TSUSAN KK D23 =J7 9031-485
Emulsifying oil prepn. - 28131W/17
*ASBI= 30.12.75 AS BIOCHEM MICROORGANISM C04 D15 H04 (D16) *SU -647-296
Liquid fertiliser - 80511B/44
*ASBI= 31.05.77 AS BIOCHEM PHYS MIC C03 D16 (D15) *SU -647-339
Pseudomonas aeruginosa 640X microbial strain - 80552B/44
*ASCH= 30.06.77 AS CHEM PHYS INST A14 B04 D15 F06 (B07 F09) *SU -647-310
Soluble polymers and copolymers of 1-vinyl-1,2,4 triazole prepn. - 80525B/44
*ASHM/ 20.10.77 ASHMEAD H H B04 C03 D16 *US 4172-072
Prepn. of buffered metal proteinate(s) - 80754B/44
ASKO- 24.01.78 ASKO-UPO OY D15 =FR 2415-080
Biological dry toilet - 56576B/31
*AZCH= 30 08 77 AZCHERRYBA FISH IND D14 *SU -646-973
Food products scalder with conical rotor - 80376B/44

BADI 28.10.70 BASF AG D23 E17 =DS 2052-781
Octadienine hydrocarbons - 31041T/20
BADI 07.03.74 BASF AG A97 D25 E19 (A14 A23 A25) =OE 7501-732
Washing polyester textiles printed with dispersion dyes - 64085W/39
BADI 18.05.76 BASF AG C01 D22 E12 F09 =DS 2622-028
Fungicidal and insecticidal wood preservatives - 88359Y/50
*BADI 19.04.78 BASF AG D18 E21 F06 *DT 2816-937
Reactive mono:azo dyes of aromatic series - 79257B/44
*BADI 26.04.78 BASF AG B05 D23 E17 *EP ---4-889
Prodn. of phytol and homologues from isophytol cpds. - 79382B/44
BANY 24.01.74 BANYU PHARM CO LTD B02 D16 =J7 9031-079
Cephalosporins prodn. - 42181Y/24
BATT 14.02.78 BATTELLE MEMOR INST C02 D13 =PT --69-210
Lactoyl-urea and n-methylol-lactoyl urea prepn. - 61866B/34
BECK- 31.12.75 NATURIN-WERK BECKER A97 D12 (A25) =OE 7609-847
Polyurethane films for sausage casings - 46971Y/27
BECK- 11.03.76 NATURIN-WERKE BECKE A97 D12 =CA 1064-442
Packaging food portion with liq. in plastic dish - 48842Y/28
*BECT 23.03.76 BECTON DICKINSON CO B07 D22 *US 4171-962
Medical air filter in transparent housing - 80707B/44
*BEDD/ 21.04.78 BEDDING P M J D25 (D16) *EP ---5-131
Cleaning soln. for soft contact lenses - 79480B/44
BEEC 28.12.73 BEECHAM GROUP LTD A14 B02 D16 =NO 7902-768
Penicillin acylase/methacrylic polymer complex - 46071W/28
BEEC 28.03.74 BEECHAM GROUP LTD B04 D16 =US 4172-129
Beta-lactamase inhibitor MM 4550 - 67721W/41
BEEC 21.05.75 BEECHAM GROUP LTD B04 D16 =OE 7603-651
Culturing animal cells in vitro - 90600X/49
BEHW 02.07.74 BEHRINGWERKE AG B04 D16 =CA 1064-425
Purification of protein conjugates by preparative electrophoresis - 06709X/04
BENC 05.10.77 BENCKISER J A GMBH D25 J04 =GB 2019-297
Free-flowing dust-free granulate, esp. for detergent mfr. - 31685B/17
BIOC- 24.01.78 BIOCELL SRL D23 (D13 D21) =FR 2415-138
Fractional crystallisation of fats esp. butter and palm oil - 40648B/22
BIOR- 15.03.78 BIORES CENT KK D16 E17 =J5 4122-792
Recovering di:basic acids from fermentation broth - 68127B/38
BOEF 25.02.69 BOEHRINGER MANNHEIM GMBH D17 =J7 9031-052
Agglomerated fructose - 62267R/35
BOEF 01.03.74 BOEHRINGER MANNHEIM GMBH B04 D16 =DS 2559-875
Cholesterol determination procedure - 60750W/37
BOEF 28.06.77 SUDDEUTS ZUCKER-AG D17 =OE 7803-203
Waste heat recovery from evaporative sugar mfr. - 74468A/42
BOFO 05.12.74 BOFORS AB B04 D16 =J7 9031-397
Polypeptide chromogenic substrates for serine proteases - 31921X/18
BOHN/ 15.04.78 BOHNKE B D15 =DT 2816-390
Waste water activated sludge plant with sec. activation tank - 59870B/33
BOHN/ 15.04.78 BOHNKE B D15 =NL 7902-882
Waste water activated sludge plant with sec. activation tank - 59870B/33
*BORM/ 21.04.78 BORMET H D15 *DT 2817-527
Clarification plant run/off gutter cleaning - 79269B/44
BOSC 25.09.74 BOSCH R GMBH D15 =DS 2445-665
Sewage neutralization /detoxification treatment - 30266X/17
*BOTA= 26.09.77 BOTANY INST D13 E24 *SU -647-330
Food grade carotenoid dye for confectionery mfr. - 80543B/44
BRDM 14.10.76 BIRD MACHINE CO D17 J01 =CA 1064-445
Rotary bowl coaxial screw conveyor centrifuge - 12040A/06
BRIK- 10.10.77 BRIK PAK INC B04 D16 (D13) #OE 7707-211
Purifying sulphydryl oxidase enzyme derived from whole milk - 29946B/16
BRIM 26.12.72 BRISTOL MYERS CO D21 E24 =NL -161-668
Nitrodiphenylamine dye-based hair colouring prepns - 47158V/26
BROV 04.03.74 BBC BROWN BOVERI CO D22 L03 =CA 1064-569
Ultraviolet ray generating tube for industrial use - 63309W/38
*BRPE 19.04.78 BP NUTRITION UK LTD C03 D13 *GB 2019-189
Prodn. of liq. whey concentrate for animal feedstuffs - 79530B/44
*BRTO 05.08.75 BOC LTD D15 *GB 1554-856
Aerobic treatment of waste water - 79520B/44
BRTO 05.08.75 BOC LTD D15 =GB 1554-868
Waste water treatment to reduce BOD - 19899B/10
*BUCY 05.06.78 BUCKEYE CELLULOSE CORP D22 F07 *US 4171-542
Disposable surgical gown - 80663B/44
*BUHL- 15.04.78 FA BUHLER E D16 *DT 2816-484
Sterile biological sampling appliance - 79235B/44
BULT/ 13.04.78 BULTHEEL J D11 =DT 2911-622
Preparing layered paste for french pastry etc. - 54544B/30
BULT/ 13.04.78 BULTHEEL J M D11 =NL 7902-961
Preparing layered paste for french pastry etc. - 54544B/30
BURR- 24.05.74 BURROUGHS J P & SON C03 D13 =CA 1064-315
Continuous flow fodder particle expander - 66535Y/37

CADB 10.03.78 CADBURY INDIA LTD D13 #J5 4120-608
Cocoa butter substitute - 60958B/33
• CAMA/ 02.01.79 CAMASMIE A D14 *BR 7900-039
Pressure bottle - B/44
CAMO- 02.08.72 BIORES CAMOZZI LTD B02 D16 =SU -646-915
S-adenosil-l-methionine tri-para-toluene sulphonate - 03583V/02
CANC- 16.12.77 FOUND PROMOTION CAN B04 D16 =FR 2414-918
Immuno-therapeutic agent for treating cancer - 47584B/26
CANI 14.03.78 CANADIAN INDUSTRIES LTD A97 D12 (D13) =NO 7900-862
Shirred stick of tubular casing material for flowable material - 68477B/38
• CANP 21.04.78 CANADA PACKERS LTD D13 *GB 2019-409
Solid, high protein dietary food prods. - 79573B/44
CARL- 12.04.78 CARLE & MONTANARI D11 #NL 7803-871
Wafer cutting and feeding machine - 58110B/32
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =BR 7901-524
Cellulose acetate foam cigarette filter rod - 68589B/38
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =DK 7901-015
Cellulose acetate foam cigarette filter rod - 68589B/38
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =NO 7900-820
Cellulose acetate foam cigarette filter rod - 68589B/38
CELA 13.03.78 CELANESE CORP A88 D18 (A11 A32) =SW 7902-211
Cellulose acetate foam cigarette filter rod - 68589B/38
• CENC- 20.04.78 CENCO INSTRUMENTEN D17 E13 J04 *GB 2019-564
Sepn. and analysis of saccharide mixt. - 79598B/44
CENS 02.08.74 CENTRAL SOYA CO INC D12 =DS 2532-309
Soya bean protein-based meat substitute - 13338X/08
• CHCO= 30.06.77 CHEM CMPDS BIOL TEST RES A14 B04 D15 F06 (B07 F09) *SU -647-310
Soluble polymers and copolymers of 1-vinyl-1,2,4 triazole prepn. - 80525B/44
• CHEM 07.09.78 CHEM WERKE HULS AG A82 C03 D22 F09 (A12) *DS 2838-930
Aq. wood preservative contg. oxidatively drying polybutadiene binders - 79187B/44
• CHET 09.11.76 CHEMETRON CORP C03 D13 *US 4172-073
Prepn. of water-soluble keratinous protein - 80755B/44
CIBA 23.12.75 CIBA GEIGY AG D16 =OE 7609-547
Papain soln. for preventing clouding of beer when cold - 45237Y/26
CIBA 24.06.76 CIBA GEIGY AG A97 D15 J01 (A11) =IL --52-379
Cellulose based adsorbent for heavy metal ions - 00045A/01
CIBA 08.07.76 CIBA GEIGY AG A97 D15 J01 =IL --52-471
Adsorbent for heavy metal ions - 04773A/03
CIBA 26.05.77 CIBA GEIGY AG B04 C03 D13 (D16) =OE 7803-790
Avilamycin antibiotic as animal feed additive - 86132A/48
CIBA 02.02.78 CIBA GEIGY AG B02 C02 D13 (D22) =PT --69-166
6-Substd.-2-penem-3-carboxylic acid cpds. and derivs. - 60256B/33
CIBA 24.02.78 CIBA GEIGY AG A97 D15 (A26) =J5 4123-590
Elimination of heavy metal ions from waste waters - 63162B/35
• CNSF 29.04.75 CONSOLIDATED FOODS CORP D15 *CA 1064-630
Prepn. of biologically safe natural water - 79175B/44
• COAL 21.04.78 COAL INDUSTRY PATENT LTD D15 J01 *GB 2019-242
Ion exchange test appts. - 79540B/44
• COLG 19.12.77 COLGATE PALMOLIVE CO A96 B05 D21 (A14 B04) *BE -877-226
Magnesium poly:carboxylate complex anti:tartar compsns. - 79129B/44
COLG 17.03.78 COLGATE PALMOLIVE CO A97 D25 E19 =DK 7900-055
Conc. single phase liq. detergent-softener compsn. - 17866B/09
• COMS 13.04.78 COMMISS ENERGIE ATOMIQUE D22 (D15) *EP ---5-103
Air conditioning system for greenhouse - 79471B/44
• CONF= 26.08.77 CONFECTIONERY IND D13 *SU -646-975
Confectionery moulding appts. - 80378B/44
COOP- 18.01.78 COOPERATION PHARM F D13 =FR 2414-878
Ingestible compsn. contg. vegetable fibre and metallic proteinate - 52560B/29
CORP 25.01.73 MAIZENA GMBH D13 =DS 2303-572
Dry powder for multilayer dessert products - 57950V/32
CUTT 12.05.75 CUTTER LABS B04 C03 D16 =CA 1064-395
Cell culture system for viruses - 82846Y/46

DAHM/ 08.11.75 DAHM K D21 =OE 7608-206
Cosmetic stick with applicator and wiper blades - 83125X/45
• DANG 17.04.78 DANGER H KG D11 *DT 2816-648
Filled wafer spreading machine - 79249B/44
DAUC 22.07.75 DAIICHI SEIYAKU KK B03 C02 D16 =CA 1064-420
Antiprotozoal DE-3936 for veterinary use - 18813Y/11
DAVI/ 15.09.77 DAVIS G B D11 #CA 1064-429
Piecrust dough package for rolling out - 70626Y/39
DEGS 06.02.76 DEUTSCHE GOLD UND SILBER D25 E36 =OE 7600-842
Aq. suspensions of aluminium silicates prodn. - 57933Y/33
DEGS 06.02.76 DEUTSCHE GOLD UND SILBER D25 E36 =OE 7600-842
Aq. suspensions of aluminium silicates prodn. - 57933Y/33
DEGS 10.03.78 DEUTSCHE GOLD & SILBER D25 E34 =PT --67-201
Sodium percarbonate particles coated with dehydrated sodium perborate - 66331B/37
DEGS 10.03.78 DEUTSCHE GOLD & SILBER D25 E34 =SW 7902-164
Sodium percarbonate particles coated with dehydrated sodium perb - 66331B/37
• DELA/ 17.04.78 DELAUNAY J P C04 D15 *EP ---5-113
Deodorising treatment for pig excrement - 79472B/44
• DEUT 22.03.71 DEUTERIUM CORP D15 E36 J01 K05 *US 4172-116
Soluble gas and liquid contact exchange process - 80771B/44
DEWD/ 12.04.78 DEW D R L D12 =NL 7900-056
Treating poultry carcasses - 00428B/01
DIAS 14.07.75 DIAMOND SHAMROCK CORP B03 C02 D22 (D15) =C 1064-508
3,3,4,4-Tetrachlorotetrahydrothiophene 1,1 dioxide prodn. - 49905X/
DIDI 13.03.76 DIDIER-WERKE AG D15 E31 M25 =DS 2610-637
Recovering vanadium, tungsten or molybdenum from waste wate 48845Y/28
DIEP- 16.03.77 DIEPAL D11 =FR 2414-999
Double-screw extruder outlet for paste strips - 51657A/29
DORN- 26.04.78 MASCH DORNHAN GMBH D12 =EP ---4-933
Band saw for meat and bones - 42497B/23
• DOWC 21.06.74 DOW CHEMICAL CO A14 D22 F06 H01 (A82 A96 A97 F09) *US 4172-066
Discrete, spheroidal microgel compsn. for thickening aq. dispersion 80751B/44
• DOWC 04.11.75 DOW CHEMICAL CO A88 D15 J01 *US 4172-031
Sepn. of oil from water - 80733B/44
DOWC 05.01.76 DOW CHEMICAL CO D15 E14 J01 #CA 1064-404
Coalescing dialysis esp for removal of polysubstd. phenols - 05303X/03
• DOWC 21.08.78 DOW CHEMICAL CO B06 D21 *US 4172-121
Dentifrice in a liq. vehicle - 80772B/44
DOWO 01.07.71 DOW CORNING CORP A97 D25 E34 (A26) =DS 2232-262
Anti-foaming agent - 04195U/04
DPIN/ 18.01.78 DE MELLO RIBEIRO PI D17 #FR 2414-939
Continuous decanting clarifier, esp. for sugar juice - 38563A/22
• DUCH/ 27.06.78 DUCHSTEIN S C03 D13 *BE -877-260
Non-digestible expanded perlite granules as pig feed additive 79135B/44
DURR/ 01.05.70 DURRELL H C04 D16 =DS 2121-383
Culture prepn for soil - 71970S/45
DYNL 24.03.75 DYNAPOL B05 D13 E12 =IL --49-273
Water-soluble dihydrochalcone sweetening agents - 61655X/33

• EBAI 13.03.78 EBARA INFILCO KK D15 *J5 4120-946
Treating backwash effluent from magnetic sepn. of waste water - 79703B/44
• EBAI 15.03.78 EBARA INFILCO KK D15 *J5 4121-560
Biological purificn. of night soil polluted water - 79779B/44
• EBIO- 15.03.78 EBIOS YAKUHIN KOGYO B04 D16 *J5 4122-716
Phlogistic substance for testing antiphlogistic drugs - 79964B/44
• EISA 15.03.78 EISAI KK A96 D22 *J5 4122-717
Bactericidal disinfectant material - 79965B/44
• EISV- 02.04.79 EISVOIGT VOIGTLANDE D11 *DS 2913-108
Dough raising cabinet air humidifier - 79190B/44
ELIL 10.06.74 ELI LILLY & CO B04 C03 D16 (D22) =SW 7905-655
Antibiotic compex A-28086 and its components - 00001X/01
ELIL 27.02.78 ELI LILLY & CO A97 D16 J01 =PT --69-258
Dialysis compsn. for blood purification in artificial kidney - 63170B/35
ENVI 12.04.78 ENVIROTECH CORP D15 J09 =GB 2019-541
System for drying wet sewage sludge - 40427B/21
ERIC/ 21.04.69 ERICSSON S Y B06 D21 E34 #NL -161-670
Strengthening mineralised bone and tooth tissue - 39436F/00
ESSO 13.04.70 EXXON RES & ENG CO A91 D15 J01 =US RE30-125
Water purification - 22568T/14
• ESSO 14.04.78 EXXON RES & ENG CO D16 E13 *DT 2915-108
Lower alpha- olefin, esp. propylene or diene epoxidation - 79327B/44
ESSO 14.04.78 EXXON RES & ENG CO D16 E13 =GB 2019-390
Lower alpha- olefin, esp. propylene or diene epoxidation - 79327B/44
ESSO 14.04.78 EXXON RES & ENG CO D16 E13 =NL 7902-940
Lower alpha- olefin, esp. propylene or diene epoxidation - 79327B/44
ESSO 14.04.78 EXXON RES & ENG CO D16 E17 =NL 7902-947
Methyl ketone prodn. from n-alkane sec. alcohol - 75324B/42
ESSO 14.04.78 EXXON RES & ENG CO C03 D16 (D13) =NL 7902-951
Microbial cells prodn. from methylotropic microorganism strains - 77805B/43
ETHI 20.01.78 ETHICON INC D22 =FR 2414-903
Armed suture package of folded paperboard panels - 09730B/05
EURT 01.10.73 EUROC ADMINISTRATION AB D16 =US 4172-034
Decomposing domestic refuse - 24637W/15
EXTR- 26.01.77 EXTRACO AB D12 =US 4172-153
Chopped fish compsns. - 55465A/31

FALS/ 15.03.78 FALSCHLE W C03 D13 (D16) =OE 7807-371
Straw decomposition to protein-contg. feedstuffs - 70187B/39
FARB 02.04.76 BAYER AG B03 C02 D21 =OE 7702-135
Amino sugars which inhibit glycoside hydrolases - 70740Y/40

FARB 19.03.77 BAYER AG B03 C02 D22 =OE 7801-910
Derivs. of di:amino-glycosyl-di:amino-cyclitol antibiotics - 67081A/38
FARB 17.12.77 BAYER AG A97 D15 F09 (A26) =NO 7804-040
Water-soluble amido-poly:amine cpds. used in paper mfr. - 47343B/26
FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =PT --69-211
Azulminic acid stabilised with carbonyl cpds. - 61658B/34
FARB 14.02.78 BAYER AG A26 C02 D17 E13 (A25 A60) =PT --69-212
Modified azulminic acid contg. amino and carboxyl gps. - 61659B/34
FARB 07.03.78 BAYER AG A88 D15 J01 (A14) =J5 4122-270
Semipermeable membranes based on acrylonitrile copolymer - 68262B/38
FARB 08.03.78 BAYER AG A60 B02 C02 D22 =J5 4122-292
Heterocyclyl-carbonylamino-acetamido-penicillin derivs. - 68416B/38
FARB 17.03.78 BAYER AG D25 E33 =BR 7901-659
Comminution of white toner used in washing powder - 70211B/39
FARB 11.04.78 BAYER AG B04 D16 J04 (B05) =DT 2815-555
N-Carboxy:acyl aminoacid ester derivs. - 75673B/42
*FARB 26.04.78 BAYER AG B02 C02 D13 E13 (D22) *EP ---4-956
Imino-acetamido beta-lactam antibiotic derivs. - 79405B/44
FARH 17.02.68 HOECHST AG D25 =NL -161-813
Detergent paste derived from organic - 02700S/02
FARH 17.04.68 HOECHST AG D18 E21 =NL -161-799
Water sol polyazo dyes - 64473Z/00
FARH 28.03.74 HOECHST AG A97 D18 =US 4171-705
Modified cellulose-contg cigarette filter - 67652W/41
FARH 12.03.75 HOECHST AG A97 D12 =DT 2560-138
Folded synthetic skin with protecting sheath - 72184X/39
FARH 15.05.76 HOECHST AG A88 D15 =OE 7703-459
Treating waste water, esp. from cess pits, with flocculants - 82920Y/47
FARH 29.10.76 HOECHST AG A97 D13 =US 4172-154
Oven cooked products stable to storage in humidity - 32043A/18
FARH 25.02.78 HOECHST AG A87 D18 E17 F06 (A25 A82 A97 E16) =J5 4123-161
Water-dispersible fluorocarbon resin preparations - 66426B/37
FARH 15.03.78 HOECHST AG D15 J04 =DK 7901-057
Organic cpd. carbon determination in water - 70181B/39
FARH 15.03.78 HOECHST AG D15 J04 =SW 7902-259
Organic cpd. carbon determination in water - 70181B/39
FARH 14.04.78 HOECHST AG D25 E16 =DT 2816-174
Colourless tetra:acetyl-ethylene di:amine prepn. - 79391B/44
*FARH 14.04.78 HOECHST AG D25 E16 *EP ---4-919
Colourless tetra:acetyl-ethylene di:amine prepn. - 79391B/44
*FEPU 10.05.77 FERR METAL EFFL PURIF D15 *SU -647-001
Water clarifier to remove oil and suspended impurities - 80384B/44
FILT 09.03.78 FILTERS INT INC A91 D15 #J5 4121-559
Water purificn., esp. of sewage - 36436A/20
FIRM 29.05.69 FIRMENICH SA D23 E15 (E14) =DS 2065-551
Lactones with musk-like odour for perfumery industry - 47332V/26
FIRM 21.06.74 FIRMENICH SA B07 C03 D25 E13 =NL -161-755
Oxygenated tricyclic derivs. - 03122X/02
FIRM 20.01.78 FIRMENICH SA D23 E13 =FR 2415-108
Cyclohexyl pentanolide derivs. for perfumery - 56570B/31
*FIRM 17.04.78 FIRMENICH SA D23 E13 *EP ---4-968
3-Norbornyl-glycidate alkyl ester derivs. - 79412B/44
*FIVE 16.01.78 FIVES-CAIL BABCOCK D17 J08 *US 4171-579
Drying installation for particulates esp. cane sugar - 80668B/44
FMCC 28.03.77 FMC CORP D25 E19 F06 (D22) =US 4172-086
Crystalline percarboxylic acids prepn. from carboxylic acids - 68934A/39
*FOOD= 11.10.77 FOOD IND RES INST D13 *SU -648-191
Filled caramel strip forming appts. - 80622B/44
*FOOD= 25.10.77 FOOD IND CORROSP IND D16 *SU -647-337
Champagne-type sparkling wine prodn. - 80550B/44
*FORM- 02.11.77 FORMAX INC D14 *US 4171-625
Modular cryogenic freezing tunnel - 80674B/44
FRIT- 14.02.78 FRITZSCHE DODGE & O D23 E15 =J5 4122-262
Beta:santalol, beta:santalene, di:hydro beta:santalol cpds., prepn. - 64169B/35
FRRR 31.01.78 FERRERO OHG B06 D21 (D16) =J5 4122-738
Anticariogenic foods and pharmaceuticals - 58294B/32
FRYS/ 24.04.78 FRYSH H D21 =GB 2019-215
Dentifrice compsn. - 69888B/38
*FUJI- 16.03.78 FUJINAGA SEIYAKU KK B04 D22 H08 *J5 4122-710
Tar preparation for medical uses - 79958B/44
*FUJM 15.03.78 FUJI SPINNING KK A96 D22 *J5 4122-717
Bactericidal disinfectant material - 79965B/44
FUKO 28.04.77 FUJI OIL KK D13 (D16) =GB 1555-000
Fermentative prodn. of cocoa butter substitute - 83491A/46

GALL- 20.01.78 GALLAHER LTD D18 E36 H06 =FR 2414-882
Smoking product contg. catalyst for oxidn. of carbon mon:oxide - 54506B/30
GALL- 20.01.78 GALLAHER LTD D18 E36 H06 =FR 2414-955
Catalyst for oxidn. of carbon mon:oxide to di:oxide - 54504B/30
GALL- 20.01.78 GALLAHER LTD D18 E36 H06 =FR 2414-956
Catalyst for oxidn. of carbon mon:oxide to di:oxide - 54504B/30
GEFI- 15.03.78 GENERAL FILMS INC D22 =DK 7901-055
Retaining asepsis of a sterile web of bags during filling - 68492B/38
GENI/ 23.01.78 GENIE G V D17 =FR 2414-938
Rotary drum washer for extracting sucrose from beet and cane - 04061B/03
GENM 31.05.72 GENERAL MILLS INC D12 =J7 9031-060
Fibrous protein prod. - 31607V/17
GERB 17.07.74 GERBER PRODUCTS CO D12 =CA 1064-318
Meat and vegetable sticks - 62135W/37
GLED/ 18.04.78 GLEDITZSCH I D23 =DT 2816-717
Sepn. of untreated animal fat into water grease, and tissue - 64727B/36
GLOE/ 05.07.74 GLOERSEN S T D17 F09 =CA 1064-205
Fibrous material treatment unit - 05850X/04
*GLYC- 19.08.77 GLYCO CHEMICALS C03 D22 E13 H07 (E12) *US 4172-140
Antimicrobial compsn. for aq. systems - 80779B/44
GOUR- 15.11.66 GOURDINE SYSTEMS D15 =DS 1557-073
An electro gasdynamic separation of substan- - 83591R/45
GRAC 10.12.76 GRACE W R CO A96 B04 D16 (A25) =OE 7708-835
Dispersion of solns. of immobilised protein(s) esp. enzymes - 27023A/15
GSTR- 01.02.77 GST-REGELTECHNIK GM D15 J04 =GB 1554-834
Flocculation control of foreign matter - 36696A/21
*GSUB= 01.09.76 GEORG SUBTROP AGRIC D13 *SU -646-978
Nut shelling machine - 80381B/44
*GUSE/ 05.08.77 GUSEVA K B D13 *SU -646-254
Determn. of fermentation degree of cocoa beans - 80360B/44
*GUSH/ 14.03.78 GUSHIKEN T B03 D13 E13 *J5 4122-300
Stevioside prodn. from Stevia rebaudiana bert. plant - 79856B/44

HAMB- 23.03.72 HAMBA-MASCH MULLER D14 =NL -161-723
Sterile packaging machine - 00415V/01
*HANN/ 12.04.78 HANNES H A96 D21 (A17) *DT 2815-794
Dental wax mixt. - 79207B/44
HAUN 20.01.78 HAUNI-WERKE KORBER KG D18 F09 =FR 2414-883
Cigarette paper web perforation device - 56397B/31
*HAUN 14.04.78 HAUNI-WERKE KORBER KG A81 D18 G03 (A17) *DT 2816-165
Bonding cigarette or filter wrapping - 79218B/44
HAYB 03.09.68 HAYASHIBARA KK D17 =J7 9031-054
Preparation of high mol wt amylose - 15411R/10
HAYB 09.03.78 HAYASHIBARA SEIBUTS B04 D13 (D16 D21) =GB 2019-406
Syrup contg. oligosaccharide(s) with fructose terminal gps. - 70259B/39
HEFA- 04.10.71 HEFA-FRENON ARZNEIM D16 =DS 2149-409
Yeast component-enriched beer - 22914U/17
HENK 31.12.69 HENKEL KG AUF AKTIEN D23 E17 =DS 2030-529
Separating fatty acid mixtures - 48224S/29
HENK 04.10.74 HENKEL KG AUF AKTIEN D25 E36 F06 (E37) =DS 2539-071
Washing or bleaching compsns. for textiles - 28594X/16
HENK 04.10.74 HENKEL KG AUF AKTIEN D25 E33 (E36) =DS 2539-110
Washing or bleaching compsn for textiles - 28595X/16
HENK 06.02.76 HENKEL KG AUF AKTIEN D25 E36 =OE 7600-842
Aq. suspensions of aluminium silicates prodn. - 57933Y/33
HENK 01.10.76 HENKEL KG AUF AKTIEN A97 D25 E17 (A25 E14) =US 4172-044
Low-foaming dishwasher rinsing compsn. - 25208A/14
HENK 05.02.77 HENKEL KG AUF AKTIEN D21 E16 =OE 7800-746
Hair decolourising product based on peroxide cpds. - 58758A/33
HENK 20.01.78 HENKEL KG AUF AKTIEN B03 C03 D13 (C02) =FR 2414-879
Animal feed mixt. for poultry, pigs, etc. - 56404B/31
HENK 09.03.78 HENKEL KG AUF AKTIEN D23 E13 =J5 4122-266
13-Oxa-bi:cyclo-(10.3.0)-penta:decane - 68286B/38
*HENK 17.04.78 HENKEL KG AUF AKTIEN B01 D16 *EP ---4-913
17-C-Steroid alpha-propionic acid derivs. prodn. - 79388B/44
*HENK 24.04.78 HENKEL KG AUF AKTIEN A97 D25 E19 F06 (A25) *BE -875-779
Liquid washing product for hand or machine washing - 79104B/44
*HENK 26.04.78 HENKEL KG AUF AKTIEN D23 E13 (D21 D25) *EP ---4-978
Tri:methyl-tetra:hydro-pyranone isomer perfumes - 79417B/44
HERT/ 20.01.78 HERTTUA K D13 =FR 2414-880
Drink prepd. by water extn. of wood bark and sap - 39012B/21
*HERZ/ 13.04.78 HERZ H D22 *DT 2816-063
Sterilisation chamber lid closure - 79213B/44
*HERZ/ 24.04.78 HERTZ H D22 *DT 2817-960
Portable steam sterilisation plant - 79281B/44
*HIEJ 15.03.78 HITACHI PLANT ENG CONST D15 *J5 4121-561
Purificn. of waste liquor in fluorine-adsorption treatment - 79780B/44
*HITB 16.03.78 HITACHI CHEMICAL KK D15 *J5 4123-247
Treatment of raw sewage and derived sludge - 80077B/44
*HOHN 22.03.78 HOHNEN OIL KK D23 E11 (D13) *J5 4124-009
Inhibiting thermal browning of phospholipid(s) - 80147B/44
*HOSH- 17.03.78 HOSHIZAKI DENKI D15 *J5 4123-579
Water purifying device - 80116B/44
*HOSO 18.03.78 HOKKAIDO SODA LTD A35 D15 F09 *J5 4123-250
Calcium-contg. water-treating agent prepn. - 80079B/44
*HOTA- 13.04.78 HOTACO AS D15 *EP ---4-934
Appts. for biological purification of waste water - 79396B/44
*HOUI 14.04.78 SOC CHIM CHARBONNAGES D25 E12 *EP ---5-098
Dry mixt. of alkylbenzene sulphonate and corresp. hydroperoxide - 79469B/44

* HUTI/ 04 01 78 HUTIN B A92 D13 *FR 2414-866
Mfr. and packaging of cream cheese in plastic pots - 79483B/44

ICIL 24.02.78 IMPERIAL CHEM INDS LTD D25 E16 F06 = J5 4122-207
Quat. ammonium cpd. mixt. used as softening agent - 63152B/35
* ICIL 20 04.78 IMPERIAL CHEM INDS LTD D15 J01 (D16) *GB 2019-378
Flocculation and removal of suspended negatively charged solids - 79565B/44
IHAR 06.12.75 IHARM CHEM IND KK B02 C02 D13 = IL --49-298
Prepn. of saccharin and derivs. - 01380Y/01
IKED- 14.03.75 IKEDA BUSSAN CO D15 H03 J01 = US 4172-039
Materials derived from coconuts for absorbing mineral oils - 40882Y/23
INFL 02.09.69 INT FLAVORS & FRAGR INC D13 E13 (D18) = NL -161-745
Heterocyclic nitrogen compounds for flavouring foods and tobacco - 40361W/24
INFL 19.04.78 INT FLAVORS & FRAGR INC D23 E13 = EP ---4-914
Prodn. of perfume cpds. esp. isochroman derivs. - 59738B/32
INOZ 21.10.71 INOUE JAPAX RES INC D15 = J4 8048-188
Appts. for water pollution measurement - 80271B/44
* INOZ 21.10.71 INOUE JAPAX RES INC D15 *J7 9031-717
Appts. for water pollution measurement - 80271B/44
* INRG 13.04.78 INST NAT RECH AGRONOM D22 (D15) *EP ---5-103
Air conditioning system for greenhouse - 79471B/44
INSP 13.04.78 INST PASTEUR B04 D16 J04 = GB 2019-408
Identification of nucleic acid fragments - 77171B/43
INSP 13.04.78 INST PASTEUR B04 D16 J04 = NL 7902-911
Identification of nucleic acid fragments - 77171B/43
INSP 14.04.78 INST PASTEUR B04 D16 = DT 2915-081
Modified lambda-bacteriophage DNA - 77170B/43
INSP 14.04.78 INST PASTEUR B04 D16 = NL 7902-910
Modified lambda-bacteriophage DNA - 77170B/43
INTE- 17.04.78 INTEROX D25 E37 F06 (E14 F09) = DT 2915-522
Washing and bleaching compsn. contg. carbonate and peroxy cpd. - 77163B/43
INTE- 17.04.78 INTEROX SA D25 E37 F06 (E14 F09) = NL 7902-828
Washing and bleaching compsn. contg. carbonate and peroxy cpd. - 77163B/43
INTM 20.12.76 INT MINERALS & CHEM CORP B03 C02 D13 = GB 1554-985
Improving animal growth rate and feed efficiency - 46123A/26
ISOM- 15.04.78 ISOMEDICS INC B04 D16 K08 #DT 2816-483
Cell analysis by radioactive biochemical staining - 42009A/23
ITII- 08.03.77 ITI ICEBERG TRANSPORT INT D15 = GB 1554-826
Propulsion unit anchoring plate - 67326A/38

* JACO/ 13.04.78 JACOBS W D18 *NL 7803-911
Cigarette substitute contg. vapour-releasing material - 80288B/44
JAEG/ 19.01.78 JAEGER K H B04 D16 = FR 2414-919
Antiblastic immunological preparations - 39018B/21
* JAPC 18.03.78 NIPPON SHOKUBAI KAGAKU A97 D25 E17 (A25) *J5 4123-107
Low temp.-stable liq. detergent - 80019B/44
JOHJ 31.12.73 JOHNSON & JOHNSON A96 D22 F07 #SU -645-526
Surgical facial masks prodn. - 06893W/04
* JOHJ 30.03.78 JOHNSON & JOHNSON D21 M26 *EP ---5-013
Non-precious metal dental alloy - 79432B/44
JOHJ 11 04 78 DEVRO INC A97 D12 (A11) = GB 2019-344
Stabilising collagen films esp. sausage skins against fungi - 77664B/43
JOHJ 17 04 78 JOHNSON & JOHNSON A96 D22 = NL 7902-994
Surgical drape with liquid collection bag - 75107B/41

* KANF 13.03.78 KANEGAFUCHI CHEM KK D13 *J5 4122-762
Re-structured fibrous food prodn. - 79979B/44
KANK- 06.08.75 KANKOKU KAGAKU GIJU D17 = J5 2018-837
Pretreating sugar beet - 80225B/44
* KANK- 06.08.75 KANKOKU KAG GIJ KEN D17 *J7 9031-049
Pretreating sugar beet - 80225B/44
KAOS 04.09.75 KURATA T B06 D21 E37 = J7 9031-048
Tooth paste contg. water soluble fluorides - 18522Y/11
* KAOS 03.03.78 KAO SOAP KK A25 D18 E13 F06 (A97 D21) *EP ---5-004
Hydroxyalkyl etherified glyco:lipid ester(s) - 79424B/44
* KAOS 20 03 78 KAO SOAP KK D25 E33 *J5 4124-011
Detergent compsn. for automatic washing machines - 80149B/44
KARL/ 10 10 75 KARLSON E L D15 J01 #CA 1064-629
Particulate material removal from fluid stream - 72326W/43
* KAWA- 17 03 78 KAWAKEN FINE CHEM K D25 E19 *J5 4123-108
Solid detergent with good foaming properties in hard or soft water - 80020B/44
KEMI- 09 01.78 KEMIN IND INC C03 D13 = FR 2415-143
Stable emulsified liquid starch prod. - 52805B/29
KEND 17 01.77 KENDALL CO D22 = CA 1064-240
Surgical sponge with visual alarm visible when soaked in blood - 38545A/22

* KHNO= 10.05 77 KHARK BR NONALCOHOL A97 D16 (A14) *SU -64
338
Clarification of beer, wine, soft drinks etc. - 80551B/44
* KHPH= 10.05 77 KHARK PHARMACEUT INST A97 D16 (A14) *SU -64
338
Clarification of beer, wine, soft drinks etc. - 80551B/44
* KIBU- 16 03.78 KIBUN KK A97 D13 *J5 4122-767
Stratified yoghurt or jelly prodn. - 79980B/44
KING 10.08 76 KING PACKAGING LTD D15 J01 (D13) = J7 9030-996
Electrolytic treatment of liq. suspension - 64792Y/36
* KINZ- 16.03.78 KINZOKU KOGYO JIGYO D15 E31 K05 M25 *J5 412
700
Desorption of uranium from titanic acid adsorbent - 80129B/44
* KIRO= 07.10.75 KIEV PROD IND TECHN D16 E33 *SU -648-248
Yeast or milk of lime prodn. control - 80634B/44
KNEE/ 15.09.75 KNEER F X C04 D16 (D15) = GB 1554-873
Continuous composting of organic ww waste - 20287Y/12
* KOBA/ 13.03.78 KOBAYASHI K A96 D22 (A11) *J5 4122-720
Prodn. of poultice - 79967B/44
* KOMP= 27.10.77 KOMPLEKS POULTRY IN A97 D12 *SU -648-189
Artificial sausage skin production - 80621B/44
KONN 22.12.72 GIST-BROCADES NV B03 C02 D13 E13 (B02 D22) = SW 7905-814
Oxadiazolyacetic acid antibiotics - 51365V/28
KRFT 09.07.75 KRAFT INC D13 E17 = CA 1064-319
Encapsulated fat and oil compsns - 56012X/29
* KUBI 13.03.78 KUBOTA KK A92 D15 *J5 4120-682
Attaching partition plates to plastic purifying baths - 79654B/44
* KUBI 14.03.78 KUBOTA KK D15 J01 *J5 4121-279
Treating waste soln. previously used in gas absorption - 79761B/44
* KUBI 14.03.78 KUBOTA KK D15 *J5 4121-564
Appts. for denitrifying waste water - 79781B/44
KUKI- 20.10.76 KUKIDENT K KRISP A96 D21 E19 (E34) = GB 1554-794
Cleaning dental prostheses in aq. soln. - 02249A/02
* KULA/ 25.05.77 KULAKOV A F D13 *SU -648-198
Carrot topping and tailing machine - 80624B/44
KULS- 14.03.78 KULSYRE & TORISFABR D12 = DK 7802-345
Preserving freshly caught fish - 70354B/39
KURK 27.04.76 KURITA WATER IND KK A97 D15 (D12) = J5 2131-645
Treating waste water from animal or fish meat processing - 80240B/44
* KURK 27.04.76 KURITA WATER IND KK A97 D15 (D12) *J7 9031-304
Treating waste water from animal or fish meat processing - 80240B/44
* KURK 16.02.78 KURITA WATER IND KK D15 E36 *J5 4123-243
Chloride removal from water - 80076B/44
KUST 05.01.78 KUSTERS E D15 J01 = US 4172-038
Filter for reverse osmosis or ultrafiltration - 52733B/29
KYOW 08.05.73 KYOWA HAKKO KOGYO C B02 D16 = J7 9031-078
Cephalosporin derivs prepn by fermentation reaction - 24984W/15
* KYOW 14.03.78 KYOWA HAKKO KOGYO KK B05 D16 E16 *J5 4122-794
Fermentative prodn. of L-glutamic acid - 79985B/44
* KYOW 16.03.78 KYOWA HAKKO KOGYO KK B02 D16 *J5 4122-797
7-De-methoxy-7-amino-mitomycin B prodn. - 79988B/44
* KYOW 20.03.78 KYOWA HAKKO KOGYO KK B05 D15 J04 (D16) *J5 4123-578
Device for concentrating waste liquor - 80115B/44
* KYOW 20.04.78 KYOWA HAKKO KOGYO B04 D16 *GB 2019-388
Antibiotic DC-11 from Micromonospora sp. NRRL 11289 - 79569B/44

* LABA 17.04.78 LABATT J LTD D17 *DT 2915-448
Dry, odourless, tasteless vital gluten prepn. - 79336B/44
* LABA 17.04.78 LABATT J LTD D11 *DT 2915-449
Film-forming lipoprotein complex for baking - 79337B/44
LABA 17.04.78 LABATT J LTD D17 = GB 2019-188
Dry, odourless, tasteless vital gluten prepn. - 79336B/44
LAEV 07.02.69 LAEVOSAN-GES CHEM PHARM D17 E13 = J7 9031-051
Lactulose concentrates which are substant- - 55451R/31
* LAND- 24.04.78 INST LANDBOUWPROD D14 *GB 2019-199
Separator tank having two longitudinal compartments - 79533B/44
LANK 19.01.78 LANKRO CHEMICALS LTD A97 D25 = FR 2415-140
Cleansing mixt. forming quick-breaking emulsion with oil - 56559B/31
* LARE- 26.11.76 LAREDO SYSTEMS INC D14 *US 4171-667
Freshly cooked popcorn vending appts. - 80677B/44
* LEAT= 09.01.73 LEATHER FOOTWEAR D18 E31 (E33) *SU -645-964
Compsn. for treating hides before tanning - 80316B/44
* LEBA= 23.06.77 LENGD BASIC CHEM IN D15 E34 *SU -647-250
Sodium poly-phosphate of Graham salt type - 80466B/44
* LENI 04.06.77 LENINGRAD LENSOVET TECH C03 D13 E37 (C04) *SU -647-295
Animal feed grade phosphate prodn. - 80510B/44
* LENI 11.08.77 LENINGRAD LENSOVET TECH D15 J01 *SU -647-006
Sorbent for protein removal from waste water - 80389B/44
LEPR- 18.08.76 LEPRINO CHEESE MFG D13 = GB 1554-954
Pizza cheese mfr. - 16154A/09
LIGO/ 20.01.78 LIGOUZAT P A31 D14 J02 = FR 2414-952
Continuous mixer for particulate solids and liquids - 54500B/30

MAIS- 25.01.77 MAISON D BOIRON PRO D13 =OE 7708-272
Demoulding frozen fluid esp. food from flexible plastic mould - 28863A/16

MANN/ 08.10.74 MANNBRO N V D15 F09 *CA 1064-206
Delignification and bleaching system for pulp mfr. - 79167B/44

MARI= 23.06.77 MARII BR CELL PAPER A88 D15 F09 J01 *SU -647-384
Filter-board for beer clarification - 80594B/44

MASI 11.11.76 MASSACHUSETTS INST TECH A96 B04 D16 =DS 2749-989
Growing anchor dependent cells in a medium contg. a micro-carrier - 21567A/12

*MATU 17.03.78 MATSUSHITA ELEC IND KK D15 *J5 4123-249
Treating COD components in effluent - 80078B/44

MCDD 03.05.76 MCDONNELL DOUGLAS CORP B04 D16 =DS 2715-326
Liquid medium used to identify Citrobacter freundii - 81435Y/46

MEIJ 08.02.78 MEIJI SEIKA KAISHA B04 D16 =J5 4122-201
Antibiotic antitumour derivs. of substance SF-1739 - 68342B/38

*MEIJ 14.03.78 MEIJI SEIKA KAISHA B04 D16 *J5 4122-202
Antibiotic SF-2033 - 79828B/44

MEIJ 14.03.78 MEIJI SEIKA KAISHA B04 D16 =J5 4122-203
Antibiotics SF-2050 and SF-2050b - 61757B/34

MEIJ 16.08.78 MEIJI SEIKA KAISHA B04 D16 =BE -877-378
Antibiotic antitumour derivs. of substance SF-1739 - 68342B/38

MERE 16.02.78 MERCK PATENT GMBH D13 =PT --69-184
Low decomposition rate granulated dietetic foodstuff - 63486B/35

*MERE 21.04.78 MERCK PATENT GMBH D16 *GB 2019-434
Testing for microorganisms on surfaces - 79580B/44

MERI 21.11.75 MERCK & CO INC B02 D16 =CA 1064-419
Improved yields of cephamycin C by fermentation - 70265X/37

*MERI 21.11.75 MERCK & CO INC B02 C02 D22 F09 *US 4172-144
Broad-spectrum antibacterial Schiff base derivs. of thienamycin - 80781B/44

*MERI 03.12.76 MERCK & CO INC B05 C03 D22 E14 (D21) *US 4172-094
Di:phenyl-poly:amine(s) - 80763B/44

MERI 19.08.77 MERCK & CO INC B02 D16 =PT --68-428
Thienamycin prepn. from an N-acyl or N-di:acyl deriv. - 18387B/10

MERI 19.08.77 MERCK & CO INC B02 D16 =PT --68-429
(N)-Acyl-thienamycin cpds. prepn. - 09813B/05

MERI 28.11.77 MERCK & CO INC B04 D16 =PT --68-831
Pneumococcal vaccine contg. capsular polysaccharide - 44422B/24

MERI 10.03.78 MERCK & CO INC A97 D16 =SW 7902-140
Pretreating Sephadex (RTM) granules used for cell culture - 66344B/37

MERI 12.04.78 MERCK & CO INC B04 D16 #NL 7803-891
Preservatives for vaccines - 78323A/44

*MERI 13.04.78 MERCK & CO INC A11 D16 H01 (D13 D21) *EP ---5-030
Low calcium xanthan gums - 79440B/44

MERI 14.04.78 MERCK & CO INC B04 D16 #DT 2816-349
Preservatives for vaccines - 78323A/44

*METG 17.04.78 METALLGESELLSCHAFT AG A88 D15 *EP ---4-986
Appts. for treating cooling water with hypochlorite - 79418B/44

*METZ/ 19.08.77 METZGER S J D12 *US 4171-747
Sorter for live shrimps - 80681B/44

MEUN- 14.11.73 MEUNIER J INC D15 J01 =CA 1064-405
Cleaner for water straining grid - 53772V/30

MEYN/ 15.11.73 MEYN P D12 =NL -161-658
Automatic removal of poultry from transporter - 36956W/22

*MICR- 06.09.77 MICROLIFE TECHNICS D12 (D16) *DT 2856-821
Bacterial meat fermentation esp. to (semi) dry sausages - 79292B/44

MIES- 22.02.74 INST PRZEM MIESNEGO D13 =DS 2507-385
Curing agent and preservative for food - 59122W/36

MILE 13.02.78 MILES LABORATORIES INC B04 D16 J04 =J5 4121-199
Test reagent for uric acid determn. - 61704B/34

MINN 29.07.77 MINNESOTA MINING CO A96 D21 (A14) =US 4172-122
Sun protection compsns. - 14474B/08

MINN 19.01.78 MINNESOTA MINING CO A97 D25 =FR 2414-900
Fat-removing cleansing pad - 56569B/31

MINN 23.01.78 MINNESOTA MINING CO A96 D22 G03 (A14 A81) =FR 2415-130
Porous pressure-sensitive adhesive coated tape prodn. - 25856B/13

*MINN 17.03.78 MINNESOTA MINING CO A96 B07 D22 G03 (A14 A81) *GB 2019-221
Control of bleeding of internal mammalian lesions - 79535B/44

*MINN 19.04.78 MINNESOTA MINING CO A81 D22 G03 (A14 A96) *GB 2019-248
Tacky, pressure-sensitive adhesive tape - 79544B/44

*MITK 17.04.78 MITSUI TOATSU CHEM INC B05 D16 E17 *DT 2915-395
Pyruvic acid salts prodn. - 79334B/44

MITK 17.04.78 MITSUI TOATSU CHEM INC B05 D16 E17 =NL 7902-985
Pyruvic acid salts prodn. - 79334B/44

MITP 11.05.77 MITSUBISHI PETROCH KK B04 D16 =GB 1554-849
Polysaccharide prepn. from Pseudomonas polysaccharogenes - 82126A/46

*MITR 13.04.78 MITSUBISHI RAYON KK D22 F04 *DT 2911-076
Water-absorbent fabric product - 79296B/44

*MITU 15.03.78 MITSUBISHI CHEM IND KK D16 *J5 4122-791
Extracting glucose-isomerase from microbial body - 79983B/44

*MLCI= 14.06.76 MOLD CIVIL AGRIC D15 E33 *SU -645-941
Defluorination of artesian well water - 80302B/44

*MLCO= 03.11.77 MOLD COLLECT FARMS D15 J01 *SU -648-275
Filtering centrifuge for industrial and agricultural effluents - 80649B/44

*MOMA= 25.10.77 MOSC BR MAGARACH D16 *SU -647-337
Champagne-type sparkling wine prodn. - 80550B/44

*MONS 05.01.77 MONSANTO CO D25 E13 (D15) *US 4172-208
5-Bromo-5,5-di:carboxyethyl-valeraldehyde di:ethyl acetal - 80807B/44

MONT 05.10.71 MONTEDISON PHARM LT A32 D22 (A25 A96) =DS 2248-813
Wound dressing - 23167U/17

*MOSK/ 06.01.76 MOSKAZENKO R I D16 *SU -646-977
Processing fruit or grape pressings - 80380B/44

MRSC 08.10.74 MARS LTD C03 D13 =CA 1064-313
Pectate thickener or gelifying agent for foods - 60378W/37

MRSC 24.04.78 MARS LTD C03 D13 =BE -875-783
Frozen animal and human food prod. - 79531B/44

*MRSC 24.04.78 MARS LTD C03 D13 *GB 2019-191
Frozen animal and human food prod. - 79531B/44

MUNC- 03.10.77 MUNCHMEYER & CO D12 =DS 2744-456
Machine to cut open and clean stomach of chickens, etc. - 11937B/07

NAGM 23.01.78 NAGOYA UNIVERSITY D15 (D16) =FR 2415-081
Purifying phosphorus cpd. - contg. waste waters - 56585B/31

*NALC 15.10.76 NALCO CHEMICAL CO D15 E11 M14 *US 4172-032
Scale and corrosion preventing industrial water treatment compsn. - 80734B/44

*NALC 18.02.77 NALCO CHEMICAL CO A97 D15 (A25) *US 4171-988
Ampholytic polymers for preventing and removing boiler scale - 80713B/44

NEST 28.05.74 SOC PROD NESTLE SA D16 =SU -648-116
Microbial protein prodn - 77091W/47

NEST 06.09.74 SOC PROD NESTLE SA D13 =DS 2445-392
Low-calorie edible creams prepn by homogenisation - 13046X/08

NEST 17.12.74 SOC PROD NESTLE SA D13 =NL -161-660
Instantly soluble granules for drinks esp. coffee and tea - 39972X/22

NEST 17.12.74 MAGGI AG D13 =NL -161-661
Instantly soluble dehydrated food products - 42010X/23

NEST 12.02.75 SOC PROD NESTLE SA D13 F01 =CA 1064-317
Highly nutritious proteinaceous fibres prodn. - 69010X/37

NEST 20.01.78 SOC PROD NESTLE SA D13 =FR 2414-877
Coffee extract for preparing non-spurting carbonated beverage - 56550B/31

NEST 10.03.78 SOC PROD NESTLE SA D13 =SW 7902-006
Granule coating machine for ice cream - 68344B/38

NEST 14.03.78 SOC PRODS NESTLE S/ D13 J04 =BR 7901-554
Powder agglomerating appts. - 72241B/40

NEST 14.03.78 SOC PROD NESTLE SA D13 J04 =NO 7900-735
Powder agglomerating appts. - 72241B/40

NEST 14.03.78 SOC PRODS NESTLE D13 J04 =PT --69-286
Powder agglomerating appts. - 72241B/40

NEST 16.03.78 SOC PROD NESTLE SA D16 (D13) =DK 7901-069
Stable plasmid- contg. Lactobacillus species culture prodn. - 70242B/39

NEUM/ 15.03.78 NEUMAIER R C03 D13 (D16) =DK 7804-533
Straw decomposition to protein-contg. feedstuffs - 70187B/39

*NICH- 13.03.78 NICHIDEN KAGAKU KK A11 D22 *J5 4120-698
Water-absorbent polysaccharide-based graft copolymers - 79668B/44

*NIGO- 13.03.78 NIPPON GOSEI SENZAI B05 D25 E19 (D21) *J5 4122-224
Sulphation of organic cpds. with sulphamic acid - 79837B/44

*NIKO- 14.03.78 NIPPON KOGYO SENJO D15 J01 *J5 4121-278
COD redn. of ammonia-contg. waste wash soln. - 79760B/44

*NIKO= 25.12.76 NIKOLAEVSK ALYE PARUSA B05 D21 *SU -646-991
Herbal mouth wash compsn. - 80382B/44

*NIOF 11.03.78 NIPPON OILS & FATS KK D15 J03 *J5 4120-943
Treating waste water contg. pollutants and inorganic nitrate(s) - 79702B/44

*NIOF 15.03.78 NIPPON OILS & FATS KK D13 *J5 4122-774
Improving taste and flavour of foodstuffs - 79982B/44

*NIPC 13.03.78 NIPPON CHEM IND KK D15 L02 *J5 4120-940
Treating water glass-contg. grouting effluent - 79701B/44

NIPK 18.01.75 NIPPON KAYAKU KK D13 E16 (E13) =CA 1064-314
Foodstuff spoilage prevention - 58191X/31

NIPK 18.01.75 NIPPON KAYAKU KK D13 E16 (E13) =CA 1064-314
Foodstuff spoilage prevention - 58191X/31

NIPQ 17.12.76 DAINIPPON PRINTING KK A96 D21 G02 =J7 9031-404
Liq. for printing or painting skin - 59204A/33

NISH- 15.07.68 NIPPON SHIRYO KOGYO D17 =J7 9031-053
Mixtures of sugar with additives - 05522R/04

NITL 22.12.77 NITTO ELECTRIC IND KK A97 C03 D22 =FR 2414-916
Antibacterial and antifungal materials - 49538B/27

NIZH= 18.10.76 NIZHNETAGIL URALKHI A21 D15 =OE 7707-296
Phenol-formaldehyde resin waste water purification - 38749A/22

NMHB 31.08.76 NORDISCH MASCH R BAADER D12 #SU -648-051
Fish processor with endless conveyor having fish troughs - 41910A/23

NMHB 08.03.78 NORDISCH MASCH R BAADER D12 #NO 7800-813
Fish skinning machine - 35308B/19

NMHB 12.04.78 NORDISCH MASCH R BAADER D12 #NL 7803-849
Dispensing device for wooden spits - 31669B/17

*NMHB 22.07.78 NORDISCH MASCH R BAADER D12 *DS 2832-259
Fish gutting machine - 79186B/44

NORD- 17.03.78 NORDBRAEU INGOLSTADT D16 =DK 7901-090
Beer of low alcohol content - 63165B/35
NOVO 18.04.79 NOVO INDUSTRI A/S A96 B04 D16 =GB 2019-410
Immobilising glutaraldehyde-sensitive enzymes - 77179B/43
• NREN 15.03.78 NIPPON RENSUI KK D15 J01 *J5 4121-282
Purificn. of water using ion exchange resins - 79763B/44
• NREN 20.03.78 NIPPON RENSUI KK D15 J01 *J5 4123-580
Continuous regeneration of loaded ion exchange resin - 80117B/44

• ODST= 25.12.76 ODESS STOMATOLOGY B05 D21 *SU -646-991
Herbal mouth wash compsn. - 80382B/44
OREA 22.03.69 L'OREAL SA B02 D22 E13 =DS 1914-822
Skin protective compsn - 28807U/20
OREA 04.09.69 L'OREAL SA B03 D21 E13 =NL -161-746
Bactericidal fungicidal pyridine deriv for - 19379S/11
• OREA 17.03.78 L'OREAL SA B03 D21 E13 (B07) *EP ---4-863
Surface active derivs. of tetra:oxo-cyclododecane - 79372B/44
OREN/ 15.09.75 ORENSTEN H E D15 =CA 1064-338
Air suction-type submerged water conditioner for aquarium - 22194Y/13
• OSAG 15.04.78 OSAKA GAS KK D15 *DT 2821-054
Activated sludge treatment of sewage - 79282B/44
OTTK/ 18.02.78 OTT K S D15 =PT --69-246
Aerobic treatment of waste water by activated sludge - 65803B/36

PAPC 16.05.74 PAPER CONVERTING MA D22 F04 =DS 2519-131
Bulked absorbent napkin insert - 80500W/49
PERF- 13.03.78 PERFETTI SPA D13 =BR 7901-553
Chewing gum contg. liq. flavoured filling - 49043B/27
PERF- 13.03.78 PERFETTI SPA D13 =DK 7901-014
Chewing gum contg. liq. flavoured filling - 49043B/27
PERF- 13.03.78 PERFETTI SPA D13 =SW 7901-902
Chewing gum contg. liq. flavoured filling - 49043B/27
PERS 07.12.73 PERSONAL PRODUCTS CO A11 D22 (A96) #CA 1064-635
Highly water-absorbent grafted cellulose fibre - 44101W/26
• PERS 28.04.78 PERSONAL PRODUCTS CO D22 *BE -875-942
Catamenial tampon with increased absorptive capacity - 79123B/44
• PETR- 17.03.75 VEB PETROCHEMISCHES D16 H04 *SU -645-962
Microorganisms biomass sepn. e.g. yeasts from culture medium - 80315B/44
PFIZ 18.08.72 PFIZER INC B04 D16 =OE 7703-337
Evaluating antibiotic relative efficiency - 15523V/09
PFIZ 01.06.77 PFIZER INC B04 D16 =GB 1554-838
Animal growth promoting polypeptide antibiotic 46192 - 40248A/22
PHIG 22.03.74 PHILIPS GLOEILAMPEN NV D15 J01 =OE 7502-105
Liq.-liq. extn. system - 65917W/40
PHIM 10.01.78 PHILIP MORRIS INC A97 D18 E19 =US 4171-702
Tobacco contg. non-volatile polymer of isopropenyl ester - 55674B/30
• PHIM 25.04.78 PHILIP MORRIS INC D18 (D15) *EP ---5-082
Removal of nitrate from tobacco materials - 79461B/44
PHIP 14.04.75 PHILLIPS PETROLEUM CO A97 D16 E19 H01 (A11 A14 E37) =CA 1064-246
Sand control in oil producing formations - 71925X/38
PILL 22.05.73 PILLSBURY CO D11 (D13) #DS 2325-948
Hydroprocessed wheat product - 71633V/41
PLAT- 24.01.76 PLATE KOFASIL GMBH C03 D16 E19 (D13) =OE 7700-329
Ensilaging agent for fodder plants - 52182Y/30
POLE- 09.02.78 OFF MEC POLETTO D18 F07 =DT 2903-865
Leather punching press with hydraulically operated punches - 61936B/34
POLI- 22.02.74 POLITECH LODZKA D13 =DS 2507-385
Curing agent and preservative for food - 59122W/36
POLQ 17.02.78 POLYSAR LTD A96 D22 =J5 4122-354
Foil-forming thermoplastic compsn. for orthopaedic use - 63399B/35
PORA/ 24.08.76 PORAT M D22 =IL --50-350
Dressing for wound - 18106A/10
PROC 22.03.73 PROCTER & GAMBLE CO A96 D22 =CA 1064-202
Multilayer absorbent bandage - 71461V/41
PROC 17.06.74 PROCTER & GAMBLE CO A97 D25 E36 =OE 7504-580
Washing powder compsn contg aluminosilicate surfactant ion-exchanger - 00067X/01
PROC 08.11.74 PROCTER & GAMBLE CO D25 E33 =CA 1064-362
Free flowing, spray dried detergent - 38459X/21
PROC 20.02.75 PROCTER & GAMBLE CO A97 D25 E37 =CA 1064-359
An additive for detergents and their compsns. - 68716X/37
PROC 02.04.75 PROCTER & GAMBLE CO C03 D13 E16 (D16) =CA 1064-316
Fortifying protein foods deficient in sulphur contg. amino acids - 33924X/18
PROC 02.04.75 PROCTER & GAMBLE CO C03 D13 E16 (D16) =DS 2613-786
Fortifying protein foods deficient in sulphur contg. amino acids - 33924X/18
PROC 14.10.75 PROCTER & GAMBLE CO A97 D25 E19 =GB 1554-736
Low-foam liq. detergent concentrates - 27144Y/16
PROC [illegible] PROCTER & GAMBLE [illegible] A97 D25 E19 (A25) =DS 2658-073
Heavy duty detergent compsns. - [illegible]
PROC [illegible] PROCTER & GAMBLE CO A97 D25 E19 E33 =SW 7902-[illegible]
Anionic, nonionic and quat. ammonium surfactant contg. solid detergent - [illegible]

PROC 13.03.78 PROCTER & GAMBLE CO A97 D25 E19 =BR 7901-558
Low phosphate laundry detergent compsn. - 68460B/38
PROC 17.04.78 PROCTER & GAMBLE CO D25 F06 =DT 2914-169
Fabric conditioner articles for use in tumble driers - 75304B/42
PROC 17.04.78 PROCTER & GAMBLE CO D25 F06 =NL 7902-768
Fabric conditioner articles for use in tumble driers - 75304B/42
• PROC 18.04.78 PROCTER & GAMBLE CO D22 *EP ---4-991
Cleaning and disinfecting flushing toilet - 79420B/44
• PRUN/ 16.02.78 PRUNA T D13 E17 (D15 D21 D23) *PT --69-240
Extn. of alcohol from olive vegetation water - B/44

RANG 17.09.75 RANK HOVIS MCDOUGAL LTD D13 (D12) =US 4171-668
Meat and fish substitutes with a fibrous layered structure - 07588Y/05
RAUS- 01.06.77 RAUSCHER & CO VERBA A96 D22 F07 =OE 7703-866
Absorbent surgical dressing - 02183B/02
REAK- 13.03.78 REAKTOR-BRENNELEMEN D15 E31 K05 M25 =BR 7901-555
Uranium cpds. recovery from waste solns. - 54518B/30
REAK- 13.03.78 REAKTOR-BRENNELEMEN D15 E31 K05 M25 =SW 7902-137
Simplified process for recovering uranium cpds. - 52597B/29
REAK- 16.03.78 REAKTOR-BRENNELEMEN D15 E31 K05 M25 =SW 7902-141
Uranium cpds. recovery from waste solns. - 54518B/30
RENT 28.05.76 RENTSCHLER ARZNEIMI A97 D16 =DS 2624-047
Mass culture of diploid cells for vaccine prodn. etc. - 66981Y/38
RENT 28.05.76 RENTSCHLER ARZNEIMITTEL A97 D16 =US 4172-013
Mass culture of diploid cells for vaccine prodn. etc. - 66981Y/38
RESE 22.06.78 RESEARCH CORP C03 D16 =US 4172-127
Administration of peptococcus asaccharolyticus to ruminants - 88324A/49
RHON 31.07.72 RHONE PROGIL D25 E34 =J7 9031-480
Sodium polyphosphate prepn - 12750V/07
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =BR 7901-537
Contactor for substances in different phases - 68134B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =DK 7901-032
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =DK 7901-033
Contactor for substances in different phases - 68134B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =NO 7900-828
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =NO 7900-829
Contactor for substances in different phases - 68134B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES A35 D15 E36 J02 =SW 7902-246
Contactor for substances in different phases - 68134B/38
RHON 14.03.78 RHONE-POULENC INDUSTRIES D25 E12 =SW 7902-247
Sequestrant for washing compsns. contg. peracid salts - 68133B/38
RICH 07.11.73 RICHARDSON-MERRELL INC B02 C02 D13 (D22) =IL --45-877
Penicillins and cephalosporins as broad-spectrum antibiotics - 22543W/14
RIGB/ 29.09.76 RIGBY R A D15 (D22) =GB 1554-893
Algae and bacterial growth control - 82872Y/46
• RIKL 19.12.77 RIKER LABS INC B02 C02 D22 *US 4172-205
Phenyl-alkanoic acid derivs. - 80806B/44
• ROEN= 04.05.77 ROST ENG CONS INST D15 *SU -647-256
Water clarifier using coagulant - 80471B/44
• ROTO 19.04.78 ROTO-SIEVE AB D15 J01 *DT 2816-899
Tubular dewatering screw press - 79255B/44
• ROVO= 22.08.77 ROST VODOKANALPROEK D15 *SU -647-257
Liquid effluents aerator - 80472B/44
ROYA- 22.08.75 ROYAL CAKE CO INC D11 =GB 1554-916
Filling and closing machine for sponge sandwiches - 16778Y/10

SAKB 14.03.78 OTSUKA KAGAKU YAKUHIN D15 J04 =J5 4121-556
Deoxidising gas with soln. contg. hydrazine, quinone and hydroquinon - 31849B/17
SANO 02.09.75 SANDOZ-ERFINDUNGEN B03 D16 =OE 7606-462
Metabolite S11743A from Streptomyces mutabilis - 14639Y/09
• SANO 09.09.75 SANDOZ-ERFINDUNGEN B04 D16 J04 *OE 7506-933
Diagnostic detection of coli tero-toxin - B/44
SANY 08.11.76 SANKYO KK B04 D16 =US 4172-126
Inactivating microbial toxins and weakening vaccines - 35268A/20
SANY 13.03.78 SANKYO KAGAKU KK B05 D23 E15 =J5 4122-253
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39
• SANY 16.03.78 SANKYO KK B03 D16 *J5 4122-796
Antibiotic 2-hydroxymethyl-2-hydroxy-2H-pyran-3-(6H)-one - [illegible]/44
SBEC [illegible] SEBEC SA [illegible] =[illegible] 4172-113
Lipstick packing machine - 33050V/18
SCHA/ 13.04.78 SCHATTNER R D22 E19 #DT 2816-050
Ambient sterilising compsn. contg. glutaraldehyde and phenol 72737A/41
SCHC 22.06.70 SCHERICO LTD B03 C02 D16 =DS 2130-113
Gentamicines b, b1 and x - as antibiotics anti protozoal and anthelmi 81416S/51
SCHE/ 22.02.78 SCHEMAR M A97 D12 =J5 4122-751

SCHI/ 10.01.77 SCHICK J H D16 (D13) =OE 7800-163
High yield microbiological prodn. of unicellular protein foodstuff - 33491A/19

SCHO- 28.10.77 SCHOXI AG D11 =FR 2414-876
Whipped foam for cakes - 72923A/41

SCHU 24.04.78 SCHULKE & MAYR GMBH D22 E19 *DT 2817-858
Stable mixt. forming antimicrobially active percarboxylic acid - 79278B/44

SCIE 16.02.78 SCIENCE UNION & CIE B04 D16 =PT --69-235
Compsn. for treating virus diseases - 68496B/38

SCMZ 17.04.78 SCM CORP D23 =DT 2845-363
Hydrogenating crude glyceride oils using nickel catalyst - 31554B/17

SCMZ 17.04.78 SCM CORP D23 =NL 7810-473
Hydrogenating crude glyceride oils using nickel catalyst - 31554B/17

SEGK 09.10.69 SEIKAGAKU KK A91 D16 (D17) *J7 9031-075
Insolubilised glucoamylase prodn. for starch glucose conversion - 80226B/44

SENP 24.04.78 SENJU PHARM KK D25 E16 *DT 2916-542
Aq. hypertonic cleansing soln. for contact lenses - 79355B/44

SENP 24.04.78 SENJU SEIYAKU KK D25 E16 =GB 2019-600
Aq. hypertonic cleansing soln. for contact lenses - 79355B/44

SHIE 13.03.78 SHINETSU CHEM IND KK B05 D23 E15 =J5 4122-253
Cis-alkyl cyclohexanol prodn. from alkylphenol - 70384B/39

*SHIN- 17.03.78 SHINOTEST KENKYUSHO B01 D16 J04 *J5 4123-095
Colorimetric determn. of cholesterol levels in living tissue - 80014B/44

*SIMC 15.04.78 SIMON ENGINEERING LTD C03 D15 (D13) *EP ---5-011
Removal of metallic impurities from sewage sludge - 79430B/44

*SIMM- 03.10.78 SIMMERING-GRAZ-PAUK D15 *OE 7807-131
Industrial waste waters purificn. and/or neutralisation - B/44

*SJON/ 15.03.78 SJONNEBRING J D15 *SW 7803-006
Receptacle for biologically degradable waste - B/44

SNKM 11.04.78 SANKIN IND CO LTD D21 =DT 2914-537
Tooth crown mfr. using photocurable resin compsn. - 77771B/43

*SOLV 24.04.78 SOLVAY & CIE A97 D25 E34 (E35) *EP ---4-997
Particles contg. polylactone and bi:carbonate - 79421B/44

*SQUI 19.05.78 SQUIBB E R & SONS INC C03 D13 *US 4172-148
Animal feed compsn. contg. aminoacid tri:chloroethyl ester - 80782B/44

STAH/ 28.02.75 STAHLER T D15 =CA 1064-628
Biological converter for faecal matter in water - 56085X/30

STAL 26.08.68 STALEY A E MFG CO D16 =DS 1943-096
Enzyme system for prodn of dextrose from starch - 12827R/08

STAL 07.11.75 STALEY A E MFG CO D17 E13 =CA 1064-482
Non-compacting solid anhydrous dextrose - 86388Y/48

*STAL 19.04.78 STALEY A E MFG CO D23 E11 *EP ---4-848
Highly water-dispersible lecithin prepn. from oil:seed - 79365B/44

*STBR 28.03.77 STANDARD BRANDS INC D17 J01 *US 4172-185
Washing regenerated weak base anion exchange resin - 80800B/44

STEI- 23.07.76 STEINMETZ-PAT-MULLE D14 =OE 7705-152
Husking cereal grains and seeds of leguminous plants - 84768Y/48

*STEN/ 26.06.78 STENGELIN V D15 *BE -877-249
Purificn. of waste water with intermittently immersed bacteria beds - 79133B/44

STER 23.12.77 STERLING DRUG INC D22 L02 =NO 7902-730
Beta whitlockite prepn. in solid or porous form - 47146B/26

STUD 04.08.76 STUDIENGES KOHLE MBH D13 =GB 1554-971
Decaffeination of coffee - 06375A/04

*SUGI/ 17.03.78 SUGIURA M D16 J04 *J5 4123-094
Quantitative assay of lactic acid bacteria - 80013B/44

*SUMI- 18.03.78 SUMITOMO ENVIROTECH A35 D15 F09 *J5 4123-250
Calcium-contg. water-treating agent prepn. - 80079B/44

SUMO 10.03.77 SUMITOMO CHEMICAL KK B04 D16 =GB 1554-842
Antithrombotic and antitumour-potentiator urokinase purificn. - 67330A/38

SUMO 19.01.78 SUMITOMO CHEMICAL KK D15 J04 =FR 2415-299
Analysis of total nitrogen content of aq. systems - 54496B/30

SUMO 17.03.78 SUMITOMO CHEMICAL KK A88 D15 J01 (A14 D13) =J5 4123-583
Acrylonitrile polymer semi-permeable membrane treatment - 70294B/39

SUMO- 17.03.78 SUMITOMO CHEMICAL C A88 D15 J01 (A14 D13) =DK 7901-102
Acrylonitrile polymer semi-permeable membrane treatment - 70294B/39

SUNZ 12.04.76 SUN STAR DENTIFRICE D21 E15 (E14) =J7 9031-046
Saccharin free dentrifice compsns. - 85707Y/48

SUNZ 19.06.76 SUNSTAR HAMIGAKI KK D21 E17 (E14) =J7 9031-047
Tooth paste and mouth wash compsns. - 11582A/06

*SUPR- 17.04.78 SUPRATON ZUCKER F J D12 (D23) *DT 2816-521
Oil and fat raw material processing - 79241B/44

SVFL 19.04.78 SVENSKA FLAKTFAB AB D22 =GB 2019-217
Disinfection of hospital equipment with hot damp air - 64720B/36

SWIF 28.03.77 SWIFT & CO D12 =GB 1554-836
Poultry tendon extraction system - 73066A/41

SYNT 05.04.78 SYVA CO A96 B04 D16 J04 =DT 2913-551
Direct immunoassay method for ligand or receptor determn. - 78496B/43

SYNT 05.04.78 SYVA CO A96 B04 D16 J04 =GB 2019-562
Direct immunoassay method for ligand or receptor determn. - 78496B/43

*SYNT 03.08.78 SYNTEX (USA) INC D21 E24 *US 4171-952
Mutagen-free oxidative black hair dye - 80701B/44

TAIH- 15.03.76 TAIHEI SHOKUHIN KAK D13 =J7 9031-058
Removing heavy metals from contaminated rice - 76900Y/43

TAKE 15.11.71 TAKEDA CHEMICAL IND KK B02 C02 D16 =J7 9031-077
Cephalosporin c prepn - 32648U/23

*TAKE 21.04.78 TAKEDA YAKHIN KOGYO A97 C04 D15 (A14) *GB 2019-379
Removing phosphate(s) from waste water - 79566B/44

*TANA 10.03.78 TANABE SEIYAKU KK A96 B05 D16 *J5 4122-793
Glutathione prodn. - 79984B/44

TECD 14.03.78 TECHNICON INSTR COR A89 D16 J04 =GB 2019-256
Carbohydrate enzyme substrate immobilisation on carrier e.g. alumina - 72069B/40

TEIJ 16.03.78 TEIJIN KK A60 D13 E36 G04 (D22) =J5 4122-687
Oxygen scavenging and heat generating compsn. - 68443B/38

*TENC 30.06.78 TENNECO CHEMICALS A97 D25 F07 (A25) *BE -877-376
Conditioning article for textile fabrics during tumble drying - 79162B/44

TETR 23.01.78 TETRA PAK DEV SA D12 =FR 2414-881
Working up fish raw material for human nutrition - 56545B/31

TEXC 27.02.78 TEXACO DEV CORP D25 E12 H01 =DT 2854-643
Detergent and surfactant ether sulphonate cpds. prepn. - 67361B/37

*TEXU- 18.01.78 TEXUNION D24 F07 *FR 2414-897
Disposable wash glove - 79486B/44

THAL 24.02.78 VEB SCHWERMASCH THALMANN D23 (D14) =DT 2851-227
Industrial plant to dry and cool processed sunflower seeds, etc. - 47241B/26

*THIE/ 03.10.66 THIELE H D21 *US 4172-128
Regenerated tooth and bone for implants - 80774B/44

*TOAG 15.03.78 TOA GOSEI CHEM IND LTD A91 D15 *J5 4121-557
Treatment of inorganic salt-contg. sludge - 79777B/44

*TOMO- 15.03.78 TOMOE KOGYO KK C03 D15 *J5 4121-558
Treating of cake dewatered by centrifugation - 79778B/44

TOXN 25.02.74 TOYO JOZO KK B02 D16 =J7 9031-080
Cephazoline prepn. - 84041W/51

*TOYM 15.03.78 TOYOBO KK D15 J01 *J5 4122-678
Hollow thread type membrane sepn. appts. - 79943B/44

TRCH 22.10.76 TREIBACHER CHEM WERKE AG D25 E34 =OE 7607-909
Sodium percarbonate crystals mfr. - 15954A/09

TSUR 28.04.76 TSUMURA JUNTENDO KK A97 D25 E19 =DS 2701-727
Washing compsn. for socks and stockings - 79737Y/45

*UEAR= 20.06.77 UKR EARTH WKG RES C04 D16 *SU -647-297
Bacterial fertiliser prepn. - 80512B/44

*UMEA= 03.08.77 UKR MEAT DAIRY D12 *SU -646-972
Animals slaughtering installation - 80375B/44

UNIC 06.10.69 UNION CARBIDE CORP A25 D22 (A26 A97) =NL -161-671
Stabilisation of polyalkylene oxide for - 24817S/14

UNIC 28.02.78 UNION CARBIDE CORP D22 =J5 4123-390
Food envelope and mfg. process - B/39

UNIL 09.12.68 UNILEVER NV D25 =NL -161-827
Reducing the rigidity of fabrics - 41536R/23

UNIL 10.05.72 UNILEVER NV D13 =NL -161-659
Randomised palm oil - 73278U/48

UNIL 17.10.75 UNILEVER LTD A97 D25 =CA 1064-360
Washing powders contg. nonionic surfactant and water-soluble soap - 27114Y/16

UNIL 17.10.75 UNILEVER LTD A97 D25 =CA 1064-361
Washing powders contg. nonionic surfactant and water-soluble soap - 27114Y/16

UNIL 22.08.77 UNILEVER NV D25 E34 =PT --68-455
Aq. liq. detergent compsn. prepn. for washing clothes etc. - 14186B/08

UNIL 22.08.77 UNILEVER NV A97 D25 =PT --68-456
Coloured specks for addn. to washing powders - 21208B/11

UNIL 30.08.77 UNILEVER NV D13 =PT --68-485
Iced confectionery esp. ice lollipops - 18000B/10

UNIL 19.01.78 UNILEVER NV D21 E13 =FR 2415-141
Cleansing bar contg. water-soluble acyl isethionate salt - 56544B/31

UNIL 13.03.78 UNILEVER NV D13 =BR 7901-520
Spray stencilling design on food prod. esp. ice cream - 68123B/38

UNIL 13.03.78 UNILEVER NV D13 =SW 7902-212
Spray stencilling design on food prod. esp. ice cream - 68123B/38

UNIL 24.04.78 UNILEVER NV D13 =BE -875-826
Hardened stabilised ice cream similar to soft serve type - 79529B/44

*UNIL 24.04.78 UNILEVER NV D13 *GB 2019-187
Hardened stabilised ice cream similar to soft serve type - 79529B/44

UNVO 21.12.64 UOP INC A88 D15 =DS 1442-420
Reverse osmosis appts. for purifying salt water - 88848P/00

UNVO 29.03.78 UOP INC C04 D15 =GB 2019-237
Mechanically dewatering fibrous organic waste - 56196B/30

URFO 18.10.76 URALS FORESTRY INST A21 D15 =OE 7707-296
Phenol-formaldehyde resin waste water purification - 38749A/22

*USOI= 23.11.76 UKR SOIL AGROCHEM INST C03 D15 *SU -646-971
Rice field herbicide drain water contamination prevention - 80374B/44

UYFL- 05.04.78 UNIV OF FLORIDA D21 L02 =US 4171-544
Inorganic dental or surgical implant - 77620B/43

VART 17.12.76 VARTA BATTERIE AG D23 J04 (D13) =GB 1554-797
Fat residue separation from solid catalysts - 45995A/26
VENA- 04.01.72 VER NAHRUNGSMITTELI D11 =DS 2263-932
Thin dough strip - 42022U/30
•VOLG= 22.08.77 VOLGA DON CHEM WKS D15 *SU -647-257
Liquid effluents aerator - 80472B/44
VYSO- 23.01.78 VYSOKA SKOLA CHEMIC A97 D16 #FR 2415-142
Treating drinks esp. beer and wine to stabilise and deactivate enzymes - 33495A/19

WARN 30.09.74 WARNER-LAMBERT CO B04 D16 =J7 9031-396
Beta-Galactosidase-detecting diagnostic test system - 28580X/16
•WATE- 14.04.78 WATER REFINING CO D15 *EP ---5-047
Controller for water softener with brine regeneration - 79445B/44
•WATE= 23.11.76 WATER CONSERVATION C03 D15 *SU -646-971
Rice field herbicide drain water contamination prevention - 80374B/44
WEIK/ 15.03.78 WEIKERT R J D22 =BR 7901-515
Retaining asepsis of a sterile web of bags during filling - 68492B/38
WEIK/ 15.03.78 WEIKERT R J D22 =US 4171-604
Retaining asepsis of a sterile web of bags during filling - 68492B/38
WEIS/ 00.00.70 WEISS A D12 =DS 2123-350
Scalding/debristling machine - 77401T/49
•WENZ/ 18.04.78 WENZEL S D12 *DT 2816-865
Disintegrated blood albumin used as food prod. additive - 79254B/44
WIBA 30.11.70 WIBAU-WDEUT IND STRASSEN D15 J01 =NL -161-674
Liquid solid separator - 37185T/23
•WIST- 28.04.78 WISTAR INST B04 D16 *US 4172-124
Producing antibodies specific for malignant tumours - 80773B/44
•WOLF- 28.06.78 WOLFF A CHEM-PHARM A96 B05 D21 *BE -877-351
Compsns. for seborrhoea treatment - 79155B/44

YAMA/ 07.08.75 YAMATO H D14 =US 4171-739
Bucket conveyor - 66392B/37
•YAMS 14.04.78 YAMASA SHOYU KK B03 D13 E13 *GB 2019-407
Periandrin I,II,III and IV from Periandra roots - 79572B/44
•YAST/ 01.08.77 YASTREBOV S M D13 *SU -646-976
Tomato paste mfr. - 80379B/44
YEDA 06.06.76 YEDA RES & DEV CO LTD C03 D13 E17 =IL --49-726
Production of glycerine and protein prod. - 07567A/04

•ZAPE/ 24.08.77 ZAPERTOV S V D13 *SU -646-974
Leaf tea extractor - 80377B/44
ZINI 19.07.68 GRILLO WERKE AG D21 E12 =US 4172-123
Odour binding fungicidal salts of unsaturated - 00178S/01

39436-F BDE
DT 1900-577 Q00
NL 6906-114 R43
GB 1221-633 S05
CA -908-054 T36
BE -731-578 Q01
DS 1900-577 B04
NL -161-670 B44+

88848-P AD
AU 6567-903 Q00
DS 1442-420 B44

05522-R D
DT 1935-880 R04
FR 2012-973 R40
US 3619-294 S48
CH -515-684 T08
CA -909-214 T38
J7 9031-053 B44

12827-R D
BE -737-924 R08
NL 6912-965 R10
DT 1943-096 R10
FR 2017-036 R36
GB 1230-545 S17
CA -916-077 T51
J7 9029-570 B42
DS 1943-096 B44

15411-R D
NL 6913-297 R10
BE -738-317 R10
DT 1944-680 R36
FR 2017-267 R38
CH -518-370 T20
GB 1286-308 T34
CA -945-492 V17
US 3830-697 V35
DS 1944-680 B05
NL -160-614 B26
J7 9031-054 B44

15542-R CD
FR 2006-235 R10
GB 1210-770 R42
J7 9031-076 B44+

41536-R D
BE -742-879 R23
NL 6918-426 R24
DT 1961-451 R27
FR 2025-683 R50
ZA 6907-733 S26
CA -887-610 S50
US 3644-203 T12
GB 1282-428 T29
DS 1961-451 A16
NL -161-827 B44

55451-R DE
BE -745-517 R31
NL 7001-718 R33
DT 2002-385 R36
FR 2033-967 S07
GB 1232-554 S19
DL --80-437 S23
CA -915-168 T49
US 3707-534 U01
DS 2002-385 W13
J7 9031-051 B44

57294-R D
NL 7001-282 R32+
DT 2004-299 R34
FR 2029-693 S03
FR 2033-025 S06
GB 1248-882 S39
J7 2000-026 T02
US 3658-647 T20
US 3674-640 T29
GB 1300-087 T51
DT 2004-299 U18
NL -161-814 B44+

62267-R D
NL 7002-612 R35
ZA 7001-196 R50
FR 2033-003 S06
DT 1909-316 S26
GB 1240-433 S28
DT 1909-316 T32
CA -907-008 T34
US 3684-573 T35
NL -136-561 T41
CH -552-674 V39
J7 9031-052 B44

83591-R D
GB 1212-784 R45
CA -867-935 S15
US 3673-463 T28
DS 1557-073 B44

00178-S DE
DL --76-578 S01+
FR 2035-802 S09
GB 1282-889 T30
J7 3026-226 U32
CH -537-184 U35
DS 1792-074 X06
US 4172-123 B44

02700-S D
GB 1219-384 S02
CA -874-399 S27
DT 1692-009 U08
J7 3017-526 U22
US 3867-316 W09
NL -161-813 B44

08187-S AD
BE -753-866 S04
NL 7010-565 S05
DT 2032-377 S07
FR 2053-114 S30
US 3613-693 S45
CH -519-864 T22
GB 1296-908 T47
CA -932-232 U36
J7 4008-875 V13
DS 2032-377 B44

19379-S BDE
DT 2043-797 S11+
NL 7013-073 S11
BE -755-674 S11
FR 2060-407 S37
US 3615-894 S46
CA -904-858 T30
GB 1290-602 T39
CH -525-671 T42
CH -532-577 U12
US 3917-815 W47+
US 4002-634 Y04+
DS 2043-797 Y48+
NL -161-746 B44+

24817-S AD
BE -757-060 S14
NL 7014-602 S15
DT 2048-721 S26
FR 2065-024 S41
US 3664-343 T23
CH -523-938 T34
CA -910-189 T40
DT 2048-721 U25
GB 1326-025 U32
J7 4044-757 W01
NL -161-671 B44

48224-S DE
NL 7018-869 S29+
BE -761-064 S40
FR 2074-481 T02
DT 2030-529 T11
CA -905-983 T32
GB 1313-679 U16
US 3737-444 U25
SU -414-783 W18+
J7 6002-087 X08+
DS 2030-529 B44+

71970-S CD
BE -766-416 S45
NL 7105-668 S46
DT 2121-383 S46
ZA 7102-412 T06
FR 2088-269 T12
GB 1325-525 U31
CA -965-978 W18
DS 2121-383 B44

81416-S BCD
BE -768-796 S51
NL 7108-580 T02
DT 2130-113 T04
J4 7001-345 T05
ZA 7104-013 T14
FR 2104-762 T29
GB 1355-260 V23
CH -551-965 V36
SW 7404-636 V52
CA -964-650 W14
DK 7404-994 W27
IL --37-105 X05
DS 2130-113 B44

22568-T ADJ
BE -773-061 T14
ZA 7106-145 T24
CA -919-849 U06
NL 7113-241 U11
DT 2148-098 U11
FR 2151-777 U25
J4 8030-690 U31
US 3779-907 U52
GB 1370-920 V42
J7 7043-795 Y47
US RE30-125 B44+

31041-T DE
DT 2052-781 T20
DS 2052-781 B44

37185-T DJ
BE -775-880 T23
NL 7115-739 T24
DT 2058-838 T27
FR 2115-766 T44
GB 1367-620 V38
DS 2058-838 X15
NL -161-674 B44

73148-T D
GB 1296-244 T46+
J7 9031-050 B44

77401-T D
DT 2123-350 T49
CH -536-073 U29
OE 7110-771 W50+
DS 2123-350 B44+

04195-U ADE
DT 2232-262 U04
NL 7209-008 U04
BE -785-586 U05
FR 2143-815 U16
US 3843-558 V44
GB 1378-874 V52
CA -961-730 W07
J7 6021-415 X31
DS 2232-262 B44

22914-U D
DT 2149-409 U17
DS 2149-409 B44

23167-U AD
DT 2248-813 U17
NL 7213-457 U17
BE -789-739 U18
ZA 7207-132 U27
FR 2156-068 U30
J4 8085-652 V04
GB 1417-962 W51
OE 7208-540 X07
US 3975-567 X35
CH -588-350 Y27
CA 1030-319 A20
DS 2248-813 B44

28807-U BDE
J7 3007-775 U20+
CA -944-695 V18+
DS 1914-822 B44

32648-U BCD
NL 7215-283 U23
DT 2254-505 U24
FR 2161-965 U39
J4 8080-786 V05
US 3816-257 V25
GB 1389-714 W15
CH -570-459 X07
J7 9031-077 B44

42022-U D
NL 7300-102 U30
DT 2263-932 U34
FR 2174-512 U51
CH -549-946 V30
IL --41-167 W37
GB 1410-271 W42
HU T010-655 W49
US 3930-769 X03
CA -991-483 X28
US 3991-220 X47
BE -857-418 Y49
NL -158-687 B02
DS 2263-932 B44

73278-U D
NL 7306-450 U48
BE -799-387 U48
DT 2323-451 U52
FR 2184-032 V07
J4 9048-704 V28
US 3939-282 X09
GB 1431-906 X16
CA 1005-689 Y09
SW 7609-094 Y12
US RE30-086 B37
NL -161-659 B44

00415-V D
FR 2176-728 V01
GB 1354-872 V22+
CH -550-096 V30
US 3859-774 W04
DS 2214-080 W14
NL -161-723 B44

03583-V BD
BE -802-981 V02
NL 7310-706 V08
DT 2336-401 V08
FR 2194-425 V18
ZA 7304-876 V27
DL -107-461 V42
J4 9092-215 V45
US 3893-999 W29
GB 1425-384 X08
IL --42-764 X23
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57950-V D
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36956-W D
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60750-W BD
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DK 7500-782 W49+
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72326-W DJ
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SU -648-116 B44

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30266-X D
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DS 2445-665 B44

31921-X BD
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CA 1064-319 B44

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IL --49-117 B08 +
HU H002-407 B11 +
CA 1064-628 B44 +

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FR 2297-575 X47
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US 4172-116 B44

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90600-X BD
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46971-Y AD
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